

The United States

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The Eberhard Oat Meal Machine.
The manufacture of oat meal has, during the past year, become a great industry in this country, and a deal of interest has been manifested in this subject by millers in all sections of the country. Among the persevering students of the science of oat-meal milling is Mr. Wm. Eberhard, of Akron, O., a city noted for its oat-meal and barley products, as well as high grade wheat flour.

After many years of study, toil and experience, Mr. Eberhard has succeeded in perfecting a machine which will be eagerly sought for by all now interested, or those who may soon become interested in oat-meal manufacture. Mr. Eberhard kindly furnishes us with the accompanying illustration of his machine, and the following description, and he will cheerfully answer parties who will write to him for further particulars:

DESCRIPTION OF THE MACHINE.—The oats or other grain are fed into the machine through the hopper, and are carried outward by centrifugal force through the grooves in the rotating plate (shown in detail at A), and are thus forced against a series of stationary knives, arranged around the edge of the rotating disk. There is an adjustable gauge ring around the rotating disk A, to regulate the length of the cut meal. Any of the knives can be easily removed whilst the machine is in motion. The plates, of which three different kinds are furnished with each machine, are made of neatly polished chilled iron. There is a tempering screw in order to raise or lower the lower plate at pleasure, to suit the grain to be cut. The machine is easily managed and kept in order, and can be taken apart in a moment (having spring keys) in order to get at and remove any obstructions, such as small stones, nails, etc. The knives will need sharpening every day or two; and two sets of them are furnished with each machine—18 knives making a set for an 8-inch plate machine, and 30 for a 12-inch plate machine. An 8-inch machine will cut from 20 to 40 barrels in 24 hours. It ought to be run at a speed of 500 revolutions per minute, but will cut at any speed, from 100 to 700 per minute. Two cone pulleys are furnished, which enables the miller to vary the speed, and also a tight and loose pulley, enabling the miller to stop the machine without stopping the mill.

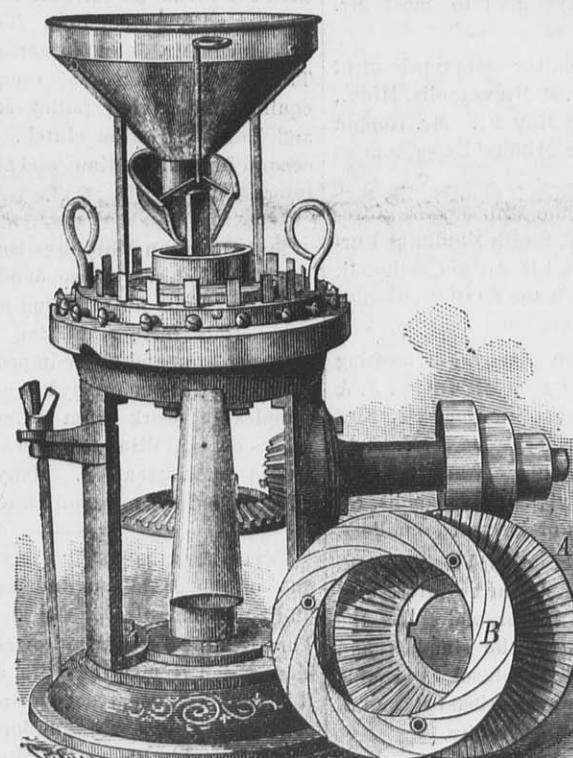
Every machine is highly finished, and is thoroughly and practically tested before shipment. Samples of meal are sent with it.

The Proposed Maryland Ship Canal.

The Congressional Committee to whom was referred the matter of the proposed Maryland ship canal, will, in their forthcoming report, recommend the route across the peninsula, leaving the Chesapeake bay at Queenstown, Md., and running across to Lewes, Del., discharging into Delaware bay five miles above the Delaware breakwater. The length of the canal by this route will be 51 miles. It will be 200 feet wide and 25 feet deep, and capable of accomodating the largest class of vessels. Its width will enable two of the largest steamships or sailing vessels in tow to pass each other with ease. There is no natural waterway, the entire line being excavated. In answer to objections, the report states that the canal is to be used by day or night, and will have no toll charges. It is proposed to have no locks other than tide locks. The report recommends an appropriation of \$37,000,000 which is allowing a margin of \$6,000,000; as from close and authentic calculations it is believed the canal, by the route recommended, can be built for \$31,000,000. The advantages to foreign commerce are apparent. Vessels bound to any European port north of the Mediterranean can by going through the canal, save 225 miles, which would otherwise be consumed in sailing down the Chesapeake bay and round the capes. This would make the trips of the reg-

ular foreign lines of steamships nearly two days shorter, and would in a similar manner expedite irregular marine traffic. The most important feature of the report is that it recommends that the canal be built under the supervision of the War Department, to serve the combined objects of harbor defense and an aid to commerce. Col. Kimmel, while serving on the Naval Committee, obtained an idea of harbor defense, on which he bases this part of his report. It argues that in the naval equipment of this country there should be two classes of vessels—one for "harbor defense," and the other "commerce destroyers."

DESCRIBING LINES ON BRIGHT SURFACES.—Many workmen find it somewhat difficult to describe the pattern of work upon iron or steel, especially after the surface is finished. Yet it is necessary to have an outline of the intended form. For instance, if the pattern of a hammer for a revolver be required to be made on a piece of iron or steel that has been faced down, the general practice would be to drill the hole for the screw or pin on which it turns, then fasten the pattern to the work by driving a piece of wire in the hole, and with a scribe mark around the pattern, which is then removed and the work filed away to this line. To obtain a more permanent line and one that will show very distinctly in all its tracings, coat the surface on which the line is to be made with a film of copper. To do this, take a lump of sulphate of copper, sometimes called bluestone, wet it with water and rub over the bright surface of the work. The moisture will dry in a few minutes, when the pattern may be put in place and the outline described.



EBERHARD'S OAT MEAL MACHINE.

The line will be clear and show very distinctly through the coppery surface. Three or four light rubs with the sulphate are sufficient to produce this surface, which is so very thin that it may be easily removed, when the work is done, with a fine file, or by rubbing with a bit of emery cloth.—*Blacksmith and Wheelwright.*

OAT MEAL FOR BREAKFAST.—In the last five years the consumption of oat meal in this country has probably increased 20-fold. People differ so much in their likes and dislikes that we do not insist on anybody eating oat meal because somebody else does, but the great growth of its popularity is beyond doubt. Generally the Irish and Scotch meal have been considered best, but they sell comparatively high, and persons well acquainted with the subject say that Akron meal of Ohio is just as good. Oat meal should be well cooked. As it is usually made a breakfast dish, it may be soaked over night, and then boiled like mush for, say, half an hour, while the other part of the breakfast is getting ready. No doubt it is more wholesome eaten plain, but the temptation to use various "dressings"—generally cream and sugar—is too strong for any except very firm health-seekers. But where these are eaten it should be, as the friends say, "in moderation."

The Sack-Flour Trade.

The last year or two has produced a great change in the method of shipping flour from this country to the United Kingdom. While the receipts at our ports, for instance, are entirely barrels for local and domestic distribution, and likewise for the foreign trade outside of the United Kingdom, the shipments to the latter section are now made very largely in sacks or bags. These sacks are of cotton, and vary in size very considerably, by far the most containing 140 pounds, and others 200, 260 and even 280 pounds. The millers at the West fill these sacks at their mills, and they are brought with through bills of lading directly to the wharf here, where the steamer or sailing vessel is to receive her cargo. The customary package in the United Kingdom has been the sack, that being used by the British millers, and also for the flour received from the continent via Havre, Antwerp and other ports.

As we have said above, however, the receipts from our country, until within a year or two, have been almost entirely in barrels; and that, in part, because it had been thought that a barrel package would best endure the long ocean voyage. British receivers have largely objected to the barrel, because it was very likely to be short of its stipulated contents of 196 lbs. through bad cooperage, the sifting out of more or less flour on its long journeys, or for other cause. But it has been found that the sack does not experience sea damage more than the barrels. Another point is that the freight on the former package is less all around per ton of flour, since the stowage is much

closer. The barrel with its some 15 pounds weight to every 196 pounds of flour constitutes an expensive item in the freight account, as against the sack, which weighs between 4 and 6 pounds. Moreover, the empty flour barrel is comparatively worthless on the other side, while the sacks can be, and to a considerable degree are, returned to this country to be refilled, or have a fair market value there for further use. These sacks are bought outright in this country, but can be returned very cheaply, and free of duty, if properly authenticated by our Consuls abroad.

The ocean steamship companies, although they find the sack flour most convenient for close stowage and handling, yet often want the barrel flour for between decks, as being the better when light package freight is short. Indeed, it is now difficult frequently to supply this want of barrel flour. However, the general tendency is toward sack packages. It is stated that a movement is under way, in connection with the central system, whereby 200 pounds of flour shall be put in every barrel, while sacks shall contain 100 and 200 pounds. The convenience of this revised method in the computations and settlements of commercial business the world over is very evident, not alone as to flour, but other commodities. It is hardly expected that the change contemplated in the size of flour packages will take place at once. There are contracts already

made on the old basis which will have to be fulfilled, but some think that the opening of another year will see the new system inaugurated.

The fact is that the change has not been yet uniformly accepted in England, nor yet fully in our country. However, this central method has long been used in California, in dealings with England. Our flour trade with the United Kingdom, large as it is, is destined to a much greater development. The special kinds of flour now shipped are the light ones, which are adapted to bakers' uses, and worth between \$5.50 and \$7.50. The British flours are heavy, and these and the fine Hungarian go largely into pastry uses.—*The Boston Journal of Commerce.*

A La Crosse, Wis., Mill.

Messrs. White, Listman & Co. have now in successful operation in their flouring mill, machinery which is destined to greatly improve the grade and quality manufactured by them. The mill has been turning out a very high grade of patent flour, made on buhrs and rollers; but by the new process, both the per cent of high grade flour, and the grade of the flour as well, will be largely increased. The process is known as Jonathan Mills' gradual reduction system, the machines for which are made by Chisholm Brothers, of Chicago. As the name implies, it consists of splitting and breaking the berry by successive processes, each passage through the machine reducing it without crushing or grinding it. In the White, Listman & Co., mill there are eleven machines, making five reductions before the grain reaches the bran cleaner. The products from these reductions are bran, middlings and flour, and the object sought is to make as much middlings and as little flour as possible. The reason for this is that the first flour made is second grade, or what is commonly known as wheat baker's. From the reduction machines the middlings go to the purifiers, thence to the rollers which separate the germ from the bran, and thence to the buhrs where the purified middlings are ground, the product being the finest, whitest and most perfectly granulated flour ever put upon the market, showing, even to the unpracticed eye, color, life and all other desirable qualities. The machines consist of chilled iron discs, on which the grooves or furrows are made with rounded edges, so that no grinding can possibly take place in the reducing process. These discs have a motion of 600 revolutions per minute.

The bran cleaner consists of vertical discs, where, in place of the ordinary furrows of a buhr, but conforming thereto in arrangement, rows of steel teeth are set in, through which the bran passes, and is whipped free of every remaining particle of flour. The result claimed is from fifty-five per cent of high grade flour; forty per cent of bakers', or second grade, and not to exceed eight per cent of the common stuff, or "red dog." The Victor mill is the third in the country to adopt the Jonathan Mills system, the other two being McKean Brothers' mill, of Terre Haute, Indiana, making 250 barrels per day, and M. C. Dow & Co.'s mill of Cleveland, making 500 barrels per day, or about the same capacity as the Victor. The first of these has been in operation since last fall with eminently satisfactory results; the second has just been started up. The work in the mill in this city is being done under the supervision of Mr. S. S. Chisholm, of the firm owning the patents, and both he and the members of the firm are highly pleased with the work up to date. All are confident that the result will be to at once put the Victor mill's brands of flour at the very top of the market, whereat La Crosse people generally will be well pleased.—*La Crosse Chronicle.*

The Crown Mill Co. of Belleville, Ill., are putting in bran rollers, bought of Ewd. P. Allis & Co., Milwaukee.

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WM. DUNHAM, Editor of "The Miller," 69 Mark Lane, and HENRY F. GILLIG & CO., 449 Strand, London, England, are authorized to receive subscriptions for the UNITED STATES MILLER.

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We send out monthly a large number of sample copies of THE UNITED STATES MILLER to millers who are not subscribers. We wish them to consider the receipt of a sample copy as a cordial invitation to them to become regular subscribers. We are working our best for the milling interest of this country, and we think it no more than fair that our milling friends should help the cause along by liberal subscriptions. Send us One Dollar in money or stamps, and we will send THE MILLER to you for one year.

MILLERS' DIRECTORY FOR 1880.

All mill-furnishers, flour brokers or other parties desiring to reach the flour mill owners and millwrights of the United States and Canada, should have a copy of the above named work. It contains about 15,600 names with Post-office addresses, and in many cases (notably in Wisconsin and Minnesota) gives the number of runs of stone, sets of rollers, and kind of power used, or the capacity in barrels. A limited number of copies only have been printed. Upwards of 75 of the leading mill-furnishing houses and flour brokers in this country and several in Europe have already secured copies. Send in your orders at once. Price Ten Dollars, on receipt of which Directory will be forwarded post-paid by mail, registered. Address

UNITED STATES MILLER,

MILWAUKEE, WIS.

MR. W. H. BLACKMER, will hereafter represent Messrs. Howes, Babcock & Co.'s interest, principally in the Northwest. Mr. Blackmer is thoroughly known to the milling fraternity of the Northwest and all will be glad to see him. During the Exhibition at Cincinnati Mr. Blackmer has charge of the machinery department.

From a Minnesota Miller.

Editor United States Miller:

Your report of the debate in the meeting of the Minnesota State Millers' Association has caused considerable amusement, as the speakers showed a great amount of grievance

of the conditions under which English milling is carried on. It appears to have been taken for granted by the majority of the speakers that there is a great desire on the part of the English millers to introduce in its entirety the system of manufacture as now carried on in Minneapolis and the other great milling points in this State. The slightest acquaintance with the matter would have taught them that it is impossible to do this when milling with mixed wheat as the English millers are bound to do. It may surprise them to know that the roller process was introduced into England some nine or ten years ago, long before the Minneapolis millers had thought of using it, and that there are points in the milling trade upon which any ordinarily well-informed English miller can give them a vast amount of information. Yours truly,

ANGLO-MINNESOTIAN.

The Electric Purifier War.

Mr. E. L. Baker, of Red Wing, Minn., sends us the following card which he has issued to the milling public:

To the Milling Public:

Having secured space at the Millers' International Exhibition, to be held in Cincinnati in June next, I will exhibit there, in operation, three (3) electric purifiers, showing the conception and progress of that invention. Also, some other useful and novel milling inventions never before made public, or patented. One of these I consider to be of much mere practical importance than the production of a new kind of purifier.

If the young men from Yale are inventors of milling machinery, and have not hastily attempted to secure to themselves the profits of another's invention, by a school-boy imitation, this occasion will afford them a favorable opportunity to prove up before a most competent jury. Yours truly,

E. L. BAKER.

Personal.

Mr. C. A. Wenborne, editor and proprietor of *The Milling World*, of Buffalo, N. Y., paid us a pleasant visit in the early part of the month. We are always glad to meet Mr. Wenborne.

Mr. Albert Hoppin, editor and proprietor of *The Northwestern Miller*, of Minneapolis, Minn., favored us with a visit May 27. Mr. Hoppin was on his way to the Millers' Exposition at Cincinnati.

Mr. H. M. Goodhue, the Minneapolis representative of the Geo. T. Smith Middlings Purifier Co., called on us on his way to Cincinnati, where he will be found in the Exhibition building during business hours until June 26.

We recently had the pleasure of meeting Mr. J. Robinson, of the firm of Messrs. J. & H. Robinson, proprietors of the Deptford Bridge Mills, Greenwich, London. Mr. Robinson will purchase machinery here to take home with him. He visits Minneapolis, St. Louis, and other points of interest to millers.

Col. J. Marshall McCue, of Virginia, will probably be at Cincinnati in the interest of the Children Millstone Driver, which has the reputation of being one of the simplest and best drivers made. The Colonel is an able writer and pleasing conversationalist, and a gentleman of boundless hospitality.

We extend thanks to Mr. N. F. Burnham, of York, Pa., the manufacturer of the Burnham water wheel, for a copy of his handsome new 100-page catalogue of water wheels. The book contains many illustrations and much valuable information on the subject of turbine water wheels. Sent free, on application by water-power users.

Mr. Wm. Dunham, Jr., of *The Miller*, London, is at the Cincinnati Exhibition, in the interests of the paper he represents.

John A. Hafner, of Pittsburgh, Pa., will be at the Cincinnati Exhibition with a complete line of his coil springs and an 8-run model mill driven by steel and wire belting. All letters for him, during the Exhibition, should be addressed to him in the Exposition Building.

LEATHER GEAR WHEELS.—A genius in Meizingen, Wurtemburg, has devised a process for making toothed wheels of leather instead of metal. The advantages claimed for them are that they have a much quieter and more elastic run, are extremely durable, and require no lubrication whatever. They are prepared from raw, untanned buffalo hides, thoroughly cleansed from all hair, flesh, etc., and glued together in as many layers as are necessary to produce the breadth of wheel required. The cementing is effected under very heavy pressure, as in an hydraulic press, and this is kept up until the glue has completely hardened. From the sheets, or plates, thus prepared, the teeth are cut out by saw and chisel. Why not leather gear wheels as well as paper car wheels?

Exhibition Notes.

WM. DUNHAM, Jr., son of the proprietor of *The Miller*, London, England, is in attendance at the Exhibition in the interest of the paper. He is highly pleased with America.

Messrs. Collins & Gathmann have a fine representation, and the well-known Col. Collins is constantly surrounded by his milling friends from all parts of the country.

Col. Rodney Mason is attending the Exhibition and seems much interested. This eminent patent lawyer is said to be as well versed in milling matters as any one in this country.

Messrs. C. W. Biglow & Co., of No. 40 Broadway, New York, have on exhibition all sorts and sizes of seamless Burlap bags for grain and export flour. All millers should write to them for full information. This sack is fully endorsed by leading exporters in Milwaukee, Minneapolis, St. Louis and elsewhere.

The Iowa exhibit contains 175 different brands of flour from all parts of the State, 3 brands of oat-meal and 185 different varieties of grain and seeds. The grain and seed department is furnished by the Iowa State Agricultural Society, and the flour from the Iowa Millers' Association. The display is a most creditable one and attracts great attention.

Mr. S. Dessau, of No. 4 Maiden Lane, New York, has on exhibition a complete line of black diamonds for millers' use. Mr. Dessau offers a very handsome gold medal for the best barrel of patent flour made from diamond dressed stones. The medal is of gold with a raised wreath of wheat surrounding a sheaf of wheat. The obverse side will contain the name of the happy recipient.

Among the really interesting model exhibitions, none probably attract more attention than the 8-run model mill driven by minute engines with a steel belt. The designer and inventor is Mr. John Hafner, of Pittsburgh, Pa. This gentleman has also on exhibition his equilibrium driving pulley and coil springs, and Eureka friction clutch. A crowd were around him all the time, and all seemed greatly interested.

THE Downton Middlings Purifier Co., of St. Louis, Mo., have a fine display of Middlings Purifiers, Rolls for crushing middlings, corrugated rolls for granulating wheat, rolls for cleaning bran and other improved milling machinery. This company has a large number of samples of work from different mills. The rollers on exhibition are also in operation and attract much attention. Many sales are being effected and the roller mill trade is "booming."

TETER & ALLEN'S EXHIBIT.—On the upper floor of Power Hall we find the interesting exhibits of specialties by the above named firm. The exhibit Teter's Improved Middlings Purifier, which is meeting with marked success. It is simple in construction and reasonable in price, and is just what millers want. Teter's Self-Adjustable Elastic Millstone Setting is a valuable invention, and one that deserves universal attention. Teter's Patented Sectional Iron Rib is a valuable feature for bolt reels, as is also his Bolting Cleth Brush. Teter & Allen's Patent Black Diamond Hand Tool for truing and smoothing the surfaces of millstones, is the handsomest tool made for the purpose, and thousands of them are selling. They are honestly made and are lasting in quality. Millers who desire to have full particulars with illustrations, should address them as follows: Teter & Allen, 404 Commerce street, Philadelphia, Pa.

E. P. ALLIS & CO.'S EXHIBIT.—It is with feelings of pride that millers from Wisconsin and Milwaukee in particular, view the grand display of milling machinery made by Messrs. E. P. Allis & Co., proprietors of the Reliance Work, Milwaukee. The magnificent 200 horsepower Reynold-Corliss engine built by this firm strikes the eye of the visitor upon entering power hall. It is not excelled in design or finish by any other exhibited. A little further on in the hall we come to the other milling exhibits, consisting of twelve roller mills,—porcelain, chilled iron, smooth and corrugated. Hundreds of millers who have become convinced that they must change their mills to the roller system have awaited this exhibition to inspect the various roller mills, and judging by all appearances the orders have been numerous, and the interest in the operation of the mills unbounded. Gray's aspirators also attract much attention.

Up to the time of publication the engines have not been tested, and the Milwaukeeans have fond hopes that the prize will be awarded to our Milwaukee engine. The house is ably represented by Mr. L. R. Hurd, whose gentlemanly manners of explaining processes and machinery, and answering innumerable questions, is to be highly commended.

HOWES, BABCOCK & CO.—Among the largest exhibits of milling machinery is that of Messrs. Howes, Babcock & Co., of Silver Creek, N. Y. Our readers will remember that in our January number we published a description of the works of this firm at Silver Creek, and also conveyed a good idea of the great trade which has been built up by them, which trade extends to all quarters of the civilized globe, where wheat is ground into flour. In the present exhibit we noticed the following machines: The Eureka Separator, the Eureka Smut Machine, the Eureka Brush Machine, and the Silver Creek Flour Packer. They have also in another department a receiving separator for elevators and mills, and several smut and brush machines. These machines have been awarded the highest medals at Vienna, Paris, the Centennial Exhibition, and everywhere else where they have been put on exhibition. The grand gold medal for the best machine of any description on exhibition was awarded to the Howes machine at the Manchester Fair, in England, in 1869. It is the handsomest and most valuable medal we ever had the pleasure of seeing. The medal may be described as follows: On the front side, in the center, is a raised bust of Queen Victoria, of faultless execution, over which, in a circle, are the words: "Her Majesty Queen Victoria," and underneath is the word "Patroners." On the obverse side, in the center, are the words, "Practice with Science," surrounded by a wreath of ears of wheat and and surrounded by the words, "Royal Agricultural Society of England." The execution of the wheat wreath is perfection itself. The other medals are very neat, but none compare with the British favor.

THE Queensland farmers are being troubled this year with red dust. Angus Mackay, who has recently paid a visit to South Australia, and traveled through many of the agricultural districts, in an interesting article on the subject of wheat-growing, thus alludes to the South Australian system: "It has been usual with us Queenslanders to suppose that we know how to grow wheat; and our rich soils that, when all was favorable, yielded their 20 to 35 bushels per acre, were pointed to with pride as proof of the capacity of Queensland to produce wheat. It was an excusable pride, no doubt. And for one, and during a long series of years, I have wondered how those South Australians could make 7, 9 or 10 bushels per acre pay, and how it was possible they could come to consider and assert that they could make money from an average crop of 12 bushels per acre. But inspection shows that while they consider the quantity per acre named a large average (the crop this year will net the farmers over four millions sterling from an average of 12 bushels), they actually farm, sow and harvest more bushels of wheat per man employed than is usual with us with our larger averages. There is an immense difference in the systems of wheat-farming followed in South Australia and the process followed in New South Wales and Queensland. I am very much disposed to give the South Australians credit for having worked out an Australian system of wheat-farming, while we supposed ourselves to be doing better by following the Old World systems more closely."

Alexander Graham's mill at Cedar Falls, Ia., burned May 27. Loss, about \$13,000.

Mr. Arndt of the firm of Tyler & Arndt of De Pere, Wis. informs us that they are about to change their mill over to a roller mill, and increase its capacity to 200 barrels daily. This mill will do only merchant work. J. B. Dunham of the same place, whose mill was partially burned last year, has nearly completed his mill, and has added to its capacity. Both of these mills will be ready to work on the new crop. De Pere is favored with an excellent water-power, and will be, 'tis confidently expected, a considerable manufacturing town at no distant day.

FOR SALE.
ONE ALMOST NEW
Cockle Machine with Separator Combined
LARGEST SIZE.
Enquire at
STAR FLOUR MILLS, Milwaukee, Wis.

Borsig Mill.

WEINSTEIN & CO., BERLIN, 1880.

(Written expressly for the UNITED STATES MILLER.)

The Borsig Mill, in Berlin, is a merchant mill in which fine rye flour is manufactured. This really grand and magnificent establishment contains all modern improvements. It commenced operation in October, 1878. The mill is situated in Moabit, on the Spree river, which is navigable for ships up to 5,000 cwt., and on the railroad, and comprises the following buildings: A grain warehouse, covering 400 square m. (meters), which has seven stories and is 26 m. high; a mill, seven stories high, 38 m. long, 18 m. deep and 26 m. high; a boiler house, covering 308 square m., a four story building 16 m. high, covering 418 square m., and containing on the ground floor the engine house, the office, the experimental bakery, and above it the ware rooms for the bran. All buildings are built of brick; in the inside there are cast-iron pillars with wrought iron bases resting on wooden beams. The roof frame is constructed of wood, and the covering is a so-called wood cement roof. The principal entrances to the establishments lead through two projecting stair-halls, with stone steps. The foundation, which on the side bordering the water is in connection with the stone dock, is built solidly of Rathenow brick, and, on an average, 4 m. deep into the ground, which consists of gravel. The round chimney has a height of 40 m., by 1.62 m. diameter inside. All the chief buildings connect with each other, and form four separate compartments, rendered fire proof by solid stone walls, and in which the different departments are contained.

We now pass to the description of three separate departments, and will follow the course which the grain takes after it is unloaded from the ships and cars, through the different operations which reduce it to flour. We begin with the grain warehouse. This has a capacity of about 64,000 cwt. of grain, which by means of an apparatus which we will shortly describe more fully, can be taken out of the ships—and this is the most common way to take grain in—or from the cars, as also distributed to any special part of the warehouse, and constantly kept moving. The grain warehouse, as could be inferred from the above, is no subterranean repository for wheat, but, on the contrary, is divided into as many floors as there are stories, and we will describe the way the grain is distributed in them in the following:

All pillars at the same time serve as conduit pipes, as they are hollow, and they are at the top provided, on both sides, with slides, in such a manner that the grain stored in the upper story may be lowered into the one below, or conducted further; on the uppermost floor, near the roof, there is an iron spiral conveyor above each row of pillars, which can be supplied with grain through another conveyor placed at right angles to it by means of two elevators, which extend through all the stories, through the roof; a similar spiral conveyor is situated on the ground floor near the floor of the next story; here the spiral conveyors are connected with the pillars as well as with the store-room above by means of pipes provided with slides, and here also a spiral conveyor, placed diagonally, effects the connection with one or both elevators. If now, for instance, the grain stored round a row of pillars in any one of the stories is to be removed, the slides of the pipes in question are opened by means of a wire, and the grain flows through the pillars into the spiral conveyors. These forward it through the spiral conveyors placed diagonally into the elevator; from here it is removed into the spiral conveyor placed lengthwise in the seventh story, then runs into another spiral conveyor, where the slide is opened, runs into one or more open pillars, and leaves the pillars on that floor where the opening is not barred. The two elevators serve different purposes, as one contrives the turning of the stored grain, while the other serves for the distribution in the different stories of the grain removed out of the ship, the car, or some other vehicle, but in such a way that both manipulations can be carried on at the same time. The means of removing the grain from the ship are the same as those just mentioned. On the water front of the grain warehouse, an elevator is adjusted on a movable beam in such a manner that no matter what the water mark is, it may be led down into the hold of a ship, so that the grain may be raised out of the ship and conducted through a movable spout, which is in closest connection with the top of the elevator into a funnel-shaped mill-hopper, which is provided with two slides. Beneath these

slides are two large decimal scales, which are provided with a large box of a capacity of at least a ton—20 cwt.—of grain; the box also has an opening on the side provided with slides, and if grain enough has run into it, so that the scale balances, the supply pipe is closed and the stream of grain is led over to the other scale. Now the ton of grain is weighed accurately, the slides opened by means of levers, and the grain let down. In connection with the slide-lever, there is a dial which moves on one number at each weighing. Thus the notation of the weight is done mechanically. From the scales the grain passes over cylindrical sieves in order to remove sand and coarse admixtures; is then led into an iron conveyor below the floor, which communicates with one of the elevators above mentioned, and which now effects the distribution to any part of the grain warehouse, with the exception of the ground floor, which serves as store rooms for flour in bags. The unloading from cars or other vehicles is carried on similarly. The described elevators and other apparatus are of such dimensions that 6—800 cwt. of grain may be unloaded, weighed and distributed to different stories of the warehouse in an hour.

We now proceed to the cleansing department, separated from the grain warehouse by solid walls, but connected with the apparatus for conducting the grain contained in the latter, by means of a conveyor in a cast-iron pipe, which is carried through the wall and provided on both sides of the wall with slides. The grain passing from the storeroom to the cleansing department passes by an automatic scale of a capacity of about 350 cwt. per hour, and is transferred in a receptacle (subterranean repository for wheat) of about 2,000 cwt. in capacity, so as to pass from here automatically by means of elevators and spiral conveyors through all the stages of cleansing, as described in the following:

At first the rye is led over cylindrical sieves in order to remove thoroughly all sand and coarse admixtures; the light chaffy admixtures are next removed by a current of air, and then it drops down upon nine large cockle separators, which take away all vetches, cockle, etc. The vetches and cockle are again separated by means of special contrivances from the other impurities. Then the rye, when mouldy, passes through washing machines, and then through centrifugal and steam-drying apparatus; but if not, it goes directly through the peeling machines, which remove the outer husk. The three washing machines are placed in an arched room with cemented floor; they are built entirely of iron, and adjustable in such a manner that the grain may be left in them a longer or shorter period of time, as its condition may require. The six centrifugal machines in connection therewith and of great dimensions, effect the drying, and if this should sometimes not be thorough enough, the steam-drying apparatus is applied. The latter do not resemble malt kilns as a far less absorption of moisture is required of them, but they are essentially spiral conveyors, which move in cylindrical steam receptacles with the simultaneous application of a current of air. The peeling machines, also, of which three large specimens are on hand, are constructed entirely of iron, and their action is based principally on the friction of the kernels among themselves; in connection with these are absorption apparatus which remove by suction the light, chaffy particles which have been produced by the peeling process. From here the rye passes through a machine, where the germ points are broken off and removed in a sifting process, to which it is then subjected; then it passes through the brushing machines, again through a current of air, and then by means of a spiral conveyor through a second automatic scale into the proper mill. There are four runs of stones, solid sandstone, 45 m. in diameter, and making 150 revolutions per minute. These are common, horizontally placed millstones on a solid iron frame; the power is conveyed by means of belts. The three large brushing machines have a similar construction as the peeling machines, and differ from them in this respect only: that in the inside instead of the grinding surface there is a large brush cylinder made of tambico fibre, which rotates against a perforated steel plate cylinder; the grain must thus pass around the cylinder in a long spiral curve, and in this way all particles of dirt which may yet adhere, are removed. The current of air necessary for the cleansing department is produced by seven middle-sized and one large exhauster, 1 m. in fan-diameter, and these exhausters operate in such a way that all particles removed, like dust, brome grass, husks, etc., are blown to the seventh story, which is a large dust room. The apart-

ments where the cleansing is done are therefore free of dust.

We left the grain on its passage to the mill, and now proceed to the description of the latter, by again following the separate processes. The first grinding is done by three large roller mills, each having two pairs of chilled iron rollers, by crushing the kernel of rye by pressure; the product then passes over cylindrical sieves for the removal of grists and the light particles of husk, and is now partly conducted to twelve large rough-grinding machines and partly to mill-stones. The process of rough-grinding is carried on, as may be inferred from the above, by a mixed system, partly on rough-grinding machines and partly on stones. The rough-grinding machines are roller mills which consist of two pairs of chilled iron rollers, grooved diagonally to each other in such a way that the grooves operate like scissors and by close adjustment groats will be produced which contain about 35 to 40 per cent of fine flour, which, in regard to its whiteness, is far superior to flour produced on stones. The twelve upper runs of stones, arranged in a row, contain French stones 1.45 m. in diameter, make 120 revolutions per minute, and are surrounded by iron tube and provided with aspirations similar to the system of Jaaks and Behrens. The power is supplied by a shaft by means of conical wheels. The lower stones rest upon an iron frame foundation.

Thirty-three centrifugal separators carry on the sifting process in the seventh story. The flour separated by them drops down into an apparatus consisting of conveyors and cylinders and the apparatus is arranged in such a way that all the different kinds of flour may be obtained separately. As a rule five kinds of flour are produced; those are: 0, 0-I, I, II, and III, which are separately carried to the several reservoirs. The grits which the sifting process may have failed to separate, and also the husks containing grits, then undergo the following process: The husks are again carried back upon stones, while the grits are separated into seven numbers on separating discs to be further ground to flour on porcelain rollers. This process will still leave a small percentage of grits which, for final grinding, is carried back upon stones. The fifteen roller mills contain each two pairs of porcelain rollers which, by means of differential wheels, which are adjusted to the tough nature of rye grits—revolve with a differentiated velocity to each other. In the mill also all movements of corn, grits, flour and bran, in vertical as well as in horizontal directions, are automatic by means of conveyors and elevators. The ready flour at length drops into large reservoirs placed in the fifth story, and is then packed into sacks on the ground floor, to which it is conveyed from the reservoirs by pipes. The bran which is separated by the different processes is carried to a special conveyor for the purpose of mixture, and is transferred to the store-rooms, which are situated above the engine house, after it has passed an automatic scale. Before leaving the mill we will glance at the accurately executed transmissions and remark that the main shafts are made of cast steel with adjustable beds, while the smaller shafts are made of wrought iron and run in Seller's beds.

We now proceed to the motors, the steam engines of the establishment. In the large, elegant engine house with arched ceiling, the magnificent compound engine attracts our eye. The action is produced by a very simple moving mechanism. The required tension of the steam amounts to $7\frac{1}{2}$ atm. and the engine makes 65 revolutions per minute. By 0.45 filling of the high pressure cylinder, about 620 horse-power were indicated. The main shaft transfers its motion directly to the main mill shaft; it is made of cast steel and runs in phosphoric bronze beds. Besides this central engine there is a smaller engine of about 120 horse-power, which is placed in a special engine house adjoining the grain warehouse; this, in conjunction with the central engine, can act on transmission or operate the mechanisms of the grain warehouse and the machines of the cleansing departments separately.

The boiler house contains six boilers, arranged in such a way that every one of them consists of a Lancashire boiler and a locomotive boiler above it. The entire surface heated is 400 square m. The water is supplied by means of two steam pumps from a reservoir to which the water of the condenser is conducted.

All the different apartments, namely, all floors of the mill, the engine house, the boiler house, and all floors of the cleansing department are in reach of the manager by means of a system of electric bells, as also by speaking tubes.

Before concluding we must not forget to mention the means applied as a safeguard against fire. They consist of a telegraphic connection with the nearest principal station of the Berlin Fire Department, and besides this there are as many as 15 chemical fire extinguishers suitably placed all over the establishment.

We have now completed the tour through the establishment. Recapitulating the several impressions received, we must admit that it is a magnificent mill, which converts an amount of 2,600 cwt. of rye to flour during twenty-four hours, and with so limited a number of workmen that, without a knowledge of the mechanical arrangement, it seems almost impossible. It may truly be said of this establishment, that on the one side of it great quantities of raw material are received to reappear shortly afterwards on the other side, at a distance of about 75 m., as the finished product ready for shipment.

NEW USE FOR SAWDUST.—Sawdust can be converted into a liquid wood, and afterwards into a solid, flexible, and almost indestructible mass, which, when incorporated with animal matter, rolled and dried, can be used for the most delicate impressions, as well as for the formation of solid and durable articles, in the following manner: Immerse the dust of any kind of wood in diluted sulphuric acid, sufficiently strong to affect the fibers, for some days; the finer parts are then passed through a sieve, well stirred and allowed to settle. Drain the liquid from the sediment, and mix the latter with a proportionate quantity of animal offal, similar to that used for glue. Roll the mass, pack it in moulds and allow it to dry.

A FATAL ITALIAN DISEASE.—An Italian correspondent of the *Lancet* calls attention to an insidious and frightfully fatal disease called "pellagra," of which no less than 97,000 Italians are said to be dying at the present time, the number of victims representing 3.62 per 1,000 of the whole population, and in the infected departments, especially in Lombardy and Venice, a higher proportion than ever occurred during the worst cholera epidemic in France. The disease usually runs a slow course, like consumption. Its cause is believed to be the exclusive consumption of maize in a deteriorated condition and the unhealthy state of the hovels in which the rustics live.

A sad accident occurred at the Star and Crescent Flour Mills, at No. 2 West Randolph street, Chicago, May 5, in which Mr. Thomas Heermans met with a sudden and terrible death. Mr. Heermans was one of the proprietors of the mills, which were run under the firm name of Clinton, Briggs & Heermans, and it has been his usual custom on arriving at the works each morning to visit each room, to make such suggestions to the employees as was for the best interest of the firm. He ascended the stairs to the second floor, proceeded to near the center of the room, when he slipped, and fell through an opening in the floor to the basement below, a distance of seventy five feet. Mr. Heermans struck upon the back of his head apparently, breaking his neck, and was killed instantly. Mr. Heermans lived at 476 West Adams street, and had been connected with the flour mills since they were started, in 1860. The firm was formerly known as Ewing, Briggs & Co. Mr. Heermans was 50 years old, and came to Chicago from Central New York.

NEW METHOD OF MAKING BELTS.—A firm in Paris has devised a new method for manufacturing belts or bands for machinery, which is applicable to rubber, leather, woven tissues or gutta percha, and consists in making the belt with longitudinal ribs or grooves, the main object of which is to increase the capacity of the belt of the same cross section, say twelve inches, by the extra strength put in the same place, and also to prevent so much stretching and variation. Another modification of the same invention is grooving one side of the belt the same as saw teeth, then putting these two pieces together, leaving a plain bearing surface for contact besides, thus making a double belt, which is less liable to stretch or warp. Especial machinery is built for the purpose, and the claim for it is that better contact is given. The pores are closed during this grooving process, the belts have a higher resisting power, do not twist on the pulleys, the pressure and friction of the grooving process smooths and polishes the surface so that better contact and adherence is had. The grooves may be made regular, irregular, spiral or crossed.

THE UNITED STATES MILLER.

UNITED STATES MILLER.

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We will send a copy of the MILLERS' TEXT BOOK, by J. MCLEAN, of Glasgow, Scotland, and the UNITED STATES MILLER, for one year, to any address in the United States or Canada, for \$1.25. Price of Text Book alone, 60 cents. Send cash or stamps.

We respectfully request our readers when they write to persons or firms advertising in this paper, to mention that their advertisement was seen in the UNITED STATES MILLER. You will thereby oblige not only this paper, but the advertisers.

MESSRS. SIMPSON & GAULT will publish a daily milling paper at Cincinnati, during the Exhibition.

ANTHONY EMELE, of Saxony, Prussia, has invented an apparatus for controlling the feed to mill-stones by electricity.

IT is said that an immense bakery is to be established in Budapest, Hungary, which will use American flour exclusively.

THE census of the United States will be taken this month. The American public will anxiously await the publication of the returns.

THE Illinois State Fair will be held at Springfield, from Sept. 27 to Oct. 2. The Fat Stock Show will be held in Chicago November 15th to 20th.

THE Cockle Separator Manufacturing Co., of Milwaukee, have a beautiful machine on exhibition at Cincinnati. It will be duly appreciated by all interested parties.

MARRIED.—May 4th, 1880, Mr. Harley B. Mitchell, editor of the *American Miller*, of Chicago, Ill., to Miss Edith Ramskill. We extend our congratulations to the newly wedded pair.

OUR foreign Ministers have the opportunity not only of visiting the Exhibition, but also of seeing the National Conventions for nominating candidates for the offices of President and Vice-President of the United States.

THE *Deutsche Mueller-Zeitung*, published at Berlin, Prussia, has entered its second year and is in a prosperous condition. It is published weekly and can be furnished to subscribers in this country for \$2.00 per year.

GEO. T. SMITH, of Purifier fame, is now in England and recently read a long paper on "American New Process Milling" before the British and Irish Millers' Association, for which he was unanimously extended a vote of thanks.

WE have received a copy of the new wheel book issued by the Stillwell & Bierce Manufacturing Co., of Dayton, Ohio. It is a handsome pamphlet of 50 pages and contains much valuable information for water-power users.

\$207,306,615 worth of breadstuffs were exported from the United States during the ten months ending April 30, 1880, against \$149,085,266 during the same period in 1879. The exports of breadstuffs for April, 1880, were of the value of \$21,679,115 against \$14,168,630 in April, 1879.

A CLOSE CALL.—On Saturday night, May 15, a fire broke out in the Opera House block, in which the office of the UNITED STATES MILLER is located. The damage was entirely confined to the upper floors, but the excitement around the office of this paper was considerable, until the danger was past.

W. J. CLARK, of Salem, Ohio, the manufacturer of mill and elevator buckets and many other specialties, recently shipped us

one of his ornamental parlor fountains, aquarium and flower-stand combined. It is a beautiful ornament for any parlor or conservatory, and very reasonable in price, which we believe is \$25.

MILLERS in need of boilers of any size, and of the best quality and workmanship, will do well to write to Richard Davis, proprietor of the Marine Boiler Works, Oregon street, Milwaukee, Wis. Mr. Davis is one of the pioneer boiler manufacturers of Milwaukee, and his large establishment is capable of turning out a great amount of first class work.

A NEW PUBLICATION—PRACTICAL HINTS ON MILL BUILDING.—By R. James Abernathy, Moline, Ill.; R. Moore, printer; price, \$4.00. The author, in his preface, says: "My primary object in preparing this book was to place before the milling public a distinctively flour-milling and mill-building book." The author has succeeded in producing a work of great merit and value, and every practical miller or millwright should have a copy.

MR. P. SCHNEITLER, the German Solicitor of Foreign Patents, and milling engineer, desires us to correct a statement recently made in this paper under a misapprehension of facts. Mr. Schneitler was not in partnership with Mr. Van den Wyngaert, Sr., the President of the German Miller's Association, but with his son. Any of our readers desiring to take out foreign patents can do no better than to write to Mr. P. Schneitler, of Berlin, Germany.

RULES FOR FINDING THE HEATING SURFACE OF VERTICAL TUBULAR BOILERS.—Multiply the circumference of the fire-box in inches by its height above the grate in inches; multiply the combined circumference of all the tubes in inches by their length in inches, and to the sum of these two products add the area of the lower tube or crown sheet. Divide by 144, and from the quotient subtract the combined area of all the tubes, and the fire door. The remainder will be the number of square feet of heating surface.

A SAFETY LAMP UPON A NEW PRINCIPLE.—Herr Koerner, a student at the Freiberg School of Mines, proposes to prevent colliery explosions by the use of a lamp which embodies an interesting novelty. Its action is based upon the property of platinum black, of condensing on its surface not only oxygen, but also light carburetted hydrogen. In a wire gauze chamber are placed pieces of pumice-stone impregnated with platinum black; and as all the air for maintaining the combustion passes through the chamber, all the fire-damp is destroyed before it reaches the open flame.

THE Western Manufacturers' Mutual Insurance Co., whose principal office is at No. 130 La Salle Street, Chicago, Ill., is reported to be in a flourishing condition and its business is rapidly increasing. In glancing over the large list of policy-holders, we find the names of owners of a great many of the largest flouring mills and other manufacturing establishments in this country. Millers desiring to place more insurance will do well to address the company as above for full particulars. Hon. Henry Mann, of Milwaukee, and Hon. W. A. Rust, of Eau Claire, are the Directors from Wisconsin.

THE First Millers' National Exhibition is now in progress in Cincinnati, Ohio. About 70 visitors from abroad, millers, flour brokers, and milling machinery representatives, have so far visited the Exhibition. Few of the leading millers of Great Britain have come, probably not over a select half dozen. Many of the party are young men, sons of prominent millers, and have come over more to see this "blasted country" and to have a jolly good time than to learn about milling. The attendance has been fair, but no where near what it ought to be. The Exhibition is truly and honestly a great and interesting show, and is well worth to any mill owner or practical miller all it will cost to see it. The manufacturers have gone into the matter with zeal, and up to the present writing (June 3d), are confident of a result generally satisfactory.

A NOVEL FORDING BRIDGE.—Col. J. Marshall McCue, of Afton, Va., favors us occasionally with some interesting letters. In a recent one he describes a plan to obviate the use of a bridge and make a safe ford where the stream has a swift current or a rough or quicksand bottom. Timbers 16 inches in diameter on which the apron is pinned, bolted or spiked are placed across the stream. The timbers should

be unhewn except at joints. Under one of these and over the other small trees are placed and pinned to the cross timbers. The top branches should be left on and rest up stream. Then fill up the spaces with stone, broken brick or other solid materials as high up stream as it is desired to make the width of the ford. A fording bridge properly constructed on this plan, the Colonel says, will not give way to any flood, no matter how severe. As fords are common and too frequently dangerous, it will be a matter of interest to many all over this country to know how to fix them cheaply and have them safe at all times. Col. McCue will undoubtedly give more particulars to interested readers who may see fit to address him as above.

(Correspondence.)

Middlings Purification by Electricity.

TEHAMA, Cal., May 3, 1880.

Editor *United States Miller*:

I notice in the milling journals that inventors are coming to the front to claim the honor of having discovered that middlings can be purified by electricity, and if it is in order I would like to give my experience. Two years ago last fall I was working in a mill at Sheridan, Placer county, California, and was experimenting with middlings purifiers, when one day, while walking under a belt that was running rapidly with quite a heavy strain (I was bare-headed and am bald-headed), I experienced that sensation caused by electricity. My mind being occupied on the subject of purifying middlings, I thought I would see what effect electricity would have on the middlings. I went and got a sample and placing it on a piece of board, held them up under the belt, at the same time shaking the board to keep the middlings in motion, and I found that the furze and bran was taken up and carried off, and left a nice sample of purified middlings. I went down into the grinding floor where I found Mr. Daniel Click, the proprietor of the mill; Mr. David Speidel, a millwright, and Mr. C. B. Easten, who is working in the mill with me; and said I, I have just struck the biggest thing in the business. They asked me what it was, and I told them that I had learned that middlings can be purified by electricity. They followed me up stairs and I tried the experiment again, and with the same result. Now, said I, this is probably all I shall ever do about it, as I don't know anything in particular about electricity, but I will venture to predict that it will not be long before machines will be gotten up on this principle for purifying middlings. I did, however, experiment a little further and found that if the middlings were held up under the belt long enough that not only the bran but all the middlings were taken off. Then I took a piece of bolting cloth and made a sieve, and satisfied myself that if bolting cloth is used it requires currents of air, as the belt seemed to affect only that portion on the outside nearest to it. Accompanying this find rough pencil sketch which will give you an idea of what I thought would be a proper device for purifying middlings by electricity. AA are pulleys over which the electrified belt passes; BB are inclined shelves over which the middlings pass from the hopper D, from which they are fed to the shelves by the roller C, or any device that will feed them evenly over the whole length of the shelves. I would have brushes so arranged that the belt would be kept clean, and save the offal, the whole to be placed in a suitable frame so arranged that the belt could be given any desired inclination, and the shelves hung so they could be moved to or from the belt, as desired.

Now I thought that by having the shelves housed in on the sides with the belt, and that running rapidly would create a slight current of air between the shelves which would keep the bran on the outside nearest the belt, and would, by the attraction, be taken up and carried off. But how to get the electrified belt I did not know, and so my experiments ended in that direction; but I am experimenting all the time, and I hope soon to have something in the way of improvements in mill machinery to place before your readers that will amount to something. Respectfully yours,

J. C. HUNT.

TO DISCOVER FLAWS IN SHAFTS OR DEFECTS IN WELDS.—If a piece of iron appears to have an unsound weld, or if it has a crack apparent upon the surface and it is desired to know how deep it penetrates, heat the part to be tested to a red heat and pour a fine stream of water upon the faulty spot, but mainly on one side of it, and the iron on that side will lose its redness more rapidly than the other side, and plainly indicate how deeply the defect extends.

Job Shops and Slop Shops.

A writer in the *Boston Journal of Commerce* thus pictures the difference between a well organized job shop and what he terms a slop shop: The job shop is *sui generis*. While it partakes of the character of those adapted and intended for special productions, it has a character of its own not shared in by any other. The various jobs and the frequent make-shifts tend to produce what would seem to the unpractical eye an appearance of disorder, and would convey such an impression, possibly, to the experienced mechanic, who might be unacquainted with the methods and system of that particular shop. But the well arranged job shop has an all-pervading character of order in the seeming disorder, and its workmen waste little time in preparing for emergencies, and are usually ready for any job that comes up.

The slop shop is exactly the reverse in character, and is never just ready for an unexpected job. Its apparent character is its true one. An outsider would just as readily find a missing tool or designate the hiding-place of a needed appliance, as the proprietor, foreman, or any one of the workmen. The floor is rarely swept; when the debris of work accumulates too much on one spot, it is spread by a few hasty kicks, and all is serene. There are "glory-hole corners" which are rarely overhauled. There are hiding places for spoiled jobs which are enquired for by the vexed foreman, but rarely found. The shafting welcomes the visitor with a beseeching squeak, the repetition of which finds an echo in the shafting of a lathe belt on the cone. Some of the belts show angular caps across their face, premonitions of sudden partings and tell-tales of neglect. The workmen are lavish with oil and waste, put new files on cast iron scale, toss a broken tool under a bench, and if they get hold of a decent tool in decent order, chuck it into their private drawer or locked box. If a drill is wanted for a three-quarters of an inch hole, one sized thirteen-sixteenths is taken and ground to size. Possibly half an hour after it has been transformed another workman needs it on work for thirteen-sixteenths holes. So the drills can never be kept in sets and sizes, and when account of stock is taken at the end of the year the proprietor wonders what has become of the sets of drills with which he started off so sanguinely the preceding January.

This is the general practice in the slop shop. There is no real head to the concern; there are no Mede and Persian rules of order, no sharp over-seeing eye, and no developed and vitalized system. A job that should be drilled under the upright drill is taken to the lathe because the former is in use, and a workman is put to a three hours' job of chipping and filing because another is using the planer. In this shop there is manifested little readiness among the workmen to assist each other, except to help in turning the shop into a "hurrah nest". If one knows more than another he will hold on to it to his own knowledge very much as a miser clings to his pennies. The foreman, possibly, gives instructions, but grudgingly, or with an air of reproof. The slop shop is a good place to leave a job, but it is a poor place from which to get the completed work. The foreman will promise readily enough to-day but his performance and day of redemption are indefinite.

There are plenty of these slop shops all over the country. It is singular to note that, although the proprietors invariable fail in business, there are about so many all the time; soon as one drops out another is anxious to show how little he knows about the management of a business, and the slop shop is probably a permanent institution.

AUSTRALIAN WHEAT CROP.—The wheat crop of Australia harvested in January, 1880, was at first estimated at 500,000 tons, then at 400,000. The latest advices from that colony state that there were 1,480,000 acres of land under wheat, with an average yield of about 11 bushels per acre, which would give a gross outturn of 16,800,000 bushels, by far the largest quantity ever produced in a single season in the colony. Deducting from this the requirements for seed and home consumption, say for seed 1,600,000 acres, and 5 bushels per capita for 257,000 population, will take 1,325,000 bushels for food, or for food and seed 2,925,000 bushels, leaving a surplus of 13,875,000 bushels for export. This represents 361,500 tons shipping measurement, 2,240 pounds to the ton. About 3,812,400 bushels of the new crop had been shipped up to the 1st of April, 1880. It is expected that New Zealand will have 100,000 tons of surplus wheat available for export from the crop harvested during February, 1880.

THE MILLER'S EXHIBITION.

Auspicious Opening of the Interesting Show.

[Special Correspondence of the UNITED STATES MILLER.]

CINCINNATI, May 31, 1880.—At a quarter past 2 o'clock to-day the Commissioners and the speakers marched upon the stage, and the speakers filed into the forward seats, the gentlemen thus distinguished being President Geo. E. Gault, of the Board of Commissioners; President George Bain, of the Millers' National Association; Gen. Durbin Ward, Lieut. Gov. Andrew Hickenlooper, the Rev. Geo. H. Kinsolving, of St. John's P. E. Church; Mr. Samuel Smith, of Sheffield, England, Chairman of the visiting delegation of British and Irish millers; Mr. T. W. Hibbard, of Gloucester, England, representing the young element of British and Irish millers; and President Joseph J. Van den Wyngaert, of the *Landwirtschaftliches Ministerium* of Berlin, President of the Millers' Association of Germany and a civil representative of the German Government at this Exhibition.

Very soon after the exercises opened, the crowd having continued to file in, the hall was pretty nearly filled, and the speakers, some of whom could be heard with difficulty, had the advantage of having an audience that was very sympathetic and quick to applaud. Gen. Durbin Ward very soon commanded attention, and his speech was frequently interrupted by ready bursts of approval. The music also was frequently greeted by applause, and the orchestra had its full share of commendation throughout. Gen. Hickenlooper also showed himself a good orator. In this respect Herr Van den Wyngaert carried off the palm, for though his address was delivered with difficulty, and though his foreign accent showed that he had but little practical acquaintance with the English accent, he yet spoke distinctly and to the point, and the interest that first arose from his peculiar intonation was soon changed to an interest in the subject of his discourse. His clear enunciation was evidently largely due to his efforts to master unfamiliar accents.

The orchestra having played the second piece of the musical programme, the overture of "Pique Dame," the Rev. Geo. H. Kinsolving offered prayer. The orchestra then played one of Straus' waltzes, after which Gen. Durbin Ward, representing Cincinnati in the absence of Mayor Jacob at Chicago, took the stand, and spoke as follows:

MR. PRESIDENT AND GENTLEMEN OF THE MILLERS' ASSOCIATION.—In the absence of the Mayor of the city, I am deputed to extend to you the hospitalities of our people. There could not have been assigned me a more agreeable duty. On behalf of Cincinnati, I tender you a hearty welcome, and, in the name of your honored host, assign you the best apartments in the city. Where we now stand our citizens celebrated the hundredth anniversary of our National independence. Here, too, were congregated the national convention which nominated the President of the United States, and also the convention that nominated our Governor. Within these walls the exposition of our own native industry have been held. And but lately these corridors reverberated to the matchless strains of Beethoven, and we made this dome "gather and roll back the sound of anthems" from a thousand choral voices! To-day the Queen City of the West cordially throws open this, her grandest temple of industry and art, to the music of the world's mills. [Applause.] Brethren, from both sides of the water, come in and feel yourselves entirely at home.

Gentlemen, we are the petted and spoiled, but still grateful, children of the old world's ancestry [applause], and our hearts beat warmly toward the hardy and ingenious knights of labor who come from the other side to tilt with us in this tournament of industry. Much that we have we borrowed from you, but we have tried to improve on the pattern, and are sometimes vain enough to think we have sometimes done so. In these friendly lists of competing machinery theretofore, where we have to hazard a lance in the fray, you must pardon us, but we will prove ourselves worthy descendants of our sires by unhorning our cousins if we can. [Applause.]

Gentlemen, this Exhibition brings competition from almost every State in the Union, so that you from abroad will have an opportunity of judging our work, pointing out our mistakes, teaching us how to correct them, and of adopting our improvements if you find we have made any worthy of adoption.

In forming your judgment let it not be forgotten that less than a century ago our whole country was little more than a wilderness, and even the savage Indian was no stranger on the site of this hall. Lowell was not, Ely's Mills were not, Minneapolis was not. And though we have since been able to vie with Europe in steam transportation and machinery, yet if in any industrial arts our foreign guests should think us not equally skilled with their people, we know they will be generous enough to give us youngsters time, and, like good fathers, they will bid their promising sons God speed [applause], even though we should boast a little too much of our own country. [Applause and laughter.]

Gentlemen, we are all conscious that the great interest represented at this Exposition belongs to no country or tongue. Food, clothing, and shelter are the prime necessities of humanity, and their superiority an unmistakable mark of the highest civilization. A great people must be well fed, and clad, and housed. The cereals form the basis of nearly all the best food, vegetable and animal. The miller supplements the farmer, the gardener, and the grazier. While the fruits and the lighter vegetables supply a healthful relish, the sturdy son of toil who is the chief wealth and comfort producing agent in every country needs plenty of bread with his meat and plenty of meat with his bread. [Laughter.] The luxuries and delicacies may regale the palate, but the substantial make sinewy the arm.

Men of solid purpose and dexterous hand, we thank you for bringing us from the uttermost parts of Europe and America your knowledge and skill to excite our emulation and challenge our rivalry. In the midst of this wide and fertile cereal region of the new world you have generously come to strike hands in friendship. We trust that when you depart for your distant homes we shall have so borne ourselves that you will carry with you, each and all,

a kindly remembrance of your visit. [Applause.] Once again a warm welcome to the millers and the millwrights of the States and the nations! And thrice welcome to the millers' wives and daughters. [Applause.] The man of the mill brings us flour for the staff of life at our domestic board, but woman is the flower of the family. [Applause.] Woman's hand blesses our daily bread, and woman's love guards man's whole life. [Great applause.]

Gen. Andrew Hickenlooper was the next speaker. After the music, he said :

MR. PRESIDENT AND GENTLEMEN OF THE CONVENTION.—At a public meeting recently held in the city of New York, one of our most esteemed and distinguished citizens, the proprietor of the *Commercial*, was called upon for some remarks. After hesitating for a few moments, he stepped to the front and opened by saying: "Gentlemen, I am a citizen of Ohio, and, therefore, a modest man."

The assumption of such a virtue upon the part of a resident of this State was greeted with prolonged cheers and peals of laughter. I shall, therefore, to-day make no such claims, but on the behalf of our Governor, who is unavoidably absent, extend to you visiting representatives of a great and important interest, a most cordial and heartfelt welcome to a State of which we are justly proud, and in praise of which I must be excused for speaking in no measured terms [applause]—a State admitted to the Union less than eighty years ago, with a population not exceeding 10,000, and now containing over 3,000,000 people, possessing an accumulated wealth exceeding \$1,000 to every man, woman and child within her borders [applause], and a greater number of colleges and churches, and burdened with a less proportionate public debt than any other State of the Union [applause]; a State which, but a little over forty years ago, had not a single dollar's worth of railroad property within her limits, but now traversed in every conceivable direction by over 6,000 miles of railroad tracks, representing an invested capital of over \$400,000,000, and affording employment to not less than 60,000 of our most energetic and industrious citizens. [Applause.]

Her hills and valleys on the south are washed by the water of our beautiful Ohio, making accessible 40,000 miles of river coast and capable of bearing the products of our soil to the granaries of the world. Her prairies on the north are fanned by the breezes of that chain of fresh water lakes which have no counterpart on the face of the globe. Confined within these limits are no marshy waste nor alkaline plains; no barren mountains or trackless sands, but hidden beneath the soil over 10,000 square miles of coal and 1,000 of iron; and the surface one broad expanse of tillable soil suited to the production of every cereal known to the temperate zone, and furnishing annually to the special interests which you gentlemen represent over 150,000,000 bushels of grain.

While it can not be said of Ohio that she is, "Mother of Presidents," she is gradually assuming that enviable position, and extending her parental care over the affairs of the nation. For the past twelve years—for three successive terms—she has furnished the Chief Executives, who have so ably presided over the destinies of our country and to-day, four of the six principal contestants for Presidential honors are natives of Ohio. [Applause.]

During the rebellion, that most trying period of our country's history, she furnished to the Union cause the Commander in Chief to her armies [applause] that modest and unassuming, but patriotic and able soldier and statesman, U. S. Grant. [Applause.] His two tried and trusted Lieutenants, the partners of his toils and sharers of his honors—Wm. T. Sherman and Jas. T. McPherson—were natives of this State. [Applause.] The man who, fresh from victorious fields in the West, was first called to the command of the armies in the East, in order that further disasters might be averted and public confidence restored, was George B. McClellan, a citizen of Ohio. [Applause.]

The present Lieutenant General of our army, and probably the greatest cavalry commander of the age, little Phil. Sheridan [great applause], first saw the light of day in an humble Ohio home.

The great war minister of that ever memorable period, Edwin M. Stanton, and the no less distinguished Secretary of the Treasury, Salomon P. Chase, were both natives of this State. [Applause.]

Thus, gentlemen, either in peace or war, the record of Ohio stands second to that of no other State in the Union.

From being the seventeenth State in order of admission, and one of the most insignificant in population, through the fostering care bestowed upon her agricultural, mining, and manufacturing interests, aided by the virtue and intelligence of her people, she has passed through a period of unexampled growth and prosperity, until she now occupies the proud position of being, in population, wealth, and enterprise, the third State in the Union. To such a State, and the homes of such a people, I extend to you, representatives of an interest in which we are vitally interested, a most cordial and earnest welcome, trusting that each and every one of you may be able to secure your full share of "toll" from the grains of wisdom which will certainly be "rolled" out during the holding of this your first International Millers' Exhibition. [Continued applause.]

After the playing by the orchestra of Kreutzer's "A Night in Granada," President Gault, of the Board of Commissioners, introduced the Hon. Geo. Bain, President of the Millers' National Association, who received a very warm and cordial greeting from the assembled millers, with whom he is a favorite, and the shouts of applause were cheerfully echoed by the rest of the large gathering. President Bain said:

MR. PRESIDENT, LADIES, AND GENTLEMEN—On behalf of the Millers' National Association, I thank you for the very kind words of welcome just spoken, and to the Board of Commissioners, the people of Cincinnati, and to the millwrights, engine manufacturers, dealers in mill machinery, and all others connected with the exhibition, for the grand display it is our pleasure and privilege to assist in inaugurating. Particularly must I thank our foreign exhibitors and visitors; and I sincerely trust they will be amply repaid for the time they have taken and the distance they have traveled, the former in securing a large share of the premiums for which they compete, and the latter in forming and renewing social and business acquaintanceships, and, perhaps, improving their knowledge in the milling art in some of the machinery exhibited at what I am convinced is the largest display of the kind ever held in the world.

Although the flour milling industry is the largest of any manufacturing interest in the country, and not confined to any particular location as most other industries are, but scattered through every hamlet,

village, town, and city in the land, it was not until a very few years ago that any steps were taken to reap the benefits naturally derived from associations, although the iron, woolen, cotton, and other large manufacturing interests had formed associations for mutual benefit and protection. Realizing the necessity of something being done in this direction, a few millers (principally from Michigan) met in the city of Toledo in June, 1878, adjourned to meet in Chicago later on in the same year, and appointed the first meeting of the Millers' National Association of the United States to be held in the city of St. Louis in 1874. That meeting was an eminently successful one, representatives being present from some fifteen States. Since then annual meetings of the association have been held, once again in St. Louis, then in Milwaukee, then in Buffalo, then in Indianapolis, increasing in numbers from year to year, till at our last meeting in Chicago, one year ago, the gathering was so large that we had no idea that it could be exceeded, but the attendance here promised to more than quadruple the number then present.

Although our Association is a national one, it is composed of several State Associations, and I am happy to be able to say that every State in the Union in which wheat is produced will be largely represented and take part in the convention that opens to-morrow.

At every convention our Association has held, more or less machinery has been exhibited in the corridors of the hotels, and in the adjoining buildings; and at times our business has been interrupted by the members being detained from our sessions by the onslaught of some inventor whose newly patented machine was claimed would work as great a revolution in the milling art as the patent nostrum so liberally advertised would on the human frame, and in many cases when purchased, I am sorry to say, with the same uncomfortable results. The vendor I have no doubt was fully convinced that his machine would do all that he claimed for it, and his theories and explanations were always plausible, but as his machine was not in motion, the millers were compelled to take his word for its capabilities. This phase of our annual meetings came up for discussion at a meeting of the Executive Committee held in Milwaukee last winter, and it was argued that many inventors lacked the means and opportunity for introducing their improvements or bringing it favorably to the attention of the milling fraternity, and that years often elapse and his patent runs out, before a meritorious invention came into general use. Again it was urged that every miller had tried machine after machine and discarded them, when, had they seen them in actual operation, they would never have attempted their use. Many more arguments of a similar nature were used, and it was finally decided that if a suitable building in some central city could be procured, that an International Millers' Exhibition of milling and mill machinery would be given, and a sub-committee was appointed to carry out the idea. As soon as Cincinnati learned of the contemplated move, her merchants and manufacturers promptly took steps to secure it, and a committee of her leading business men went over to St. Louis, met the sub-committee of the Millers' Association, and in less than half an hour completed arrangements which culminated in the grand spectacle we have before us this morning.

I am glad to think, however, that if the gentlemen who were anxious that day to "work up" the exhibition had had any thought that it would have taken one-quarter of the labor it has done, that they would not have been so zealous to procure it. Thrown into intimate connection, as I have necessarily been, with the Board of Commissioners, and especially with President Gault and Assistant Secretary Dorman, from the inception of the enterprise to this, its culmination, I can assure the citizens of Cincinnati and my brother millers that, without greater energy, determination and perseverance than most men possess, and which these gentlemen seem to be gifted with in a pre-eminent degree, the scheme would have been a failure. At the very outset many of the manufacturers and dealers in mill machinery point blank refused to have anything to do with the display, claiming (and now I think with reason) that before a matter of this kind was decided on they ought to have been consulted, as they would be at very large expense in making a showing commensurate with their business; but while crying peccavi (and promising, sinner like, not to do so any more), we had a ready gone too far to back out, and one after another accepting the position, they "fell into line," and very few houses of any consequence are not represented here to-day. I can assure these gentlemen that while the Millers' Association will probably insist on having such exhibitions from time to time, not only for the purpose of making their annual conventions more interesting, but to enable them to investigate the new inventions and improvements, they will very gladly turn over to them (and so will, no doubt, the Cincinnati Commissioners) the management and details of the whole concern. No inventor, manufacturer, or vendor of a meritorious machine can so quickly or cheaply bring it before the milling public as in an exhibition like the present.

Again thanking the citizens of Cincinnati for the hearty welcome they have given us, and assuring them that we shall try to behave ourselves so well that they will invite us to return. I will close with the request that they favor us with their presence during the sittings of the convention.

President Bain was frequently interrupted by applause from the millers, but he spoke too rapidly to enable him to be heard far. He was followed, after the regular interlude of music, by Mr. T. W. Hibbard, of Gloucester, England, whose speech was well received.

Then followed Mr. Samuel Smith, of Sheffield, who said:

MR. PRESIDENT, LADIES AND GENTLEMEN: On behalf of the millers whom I represent, I beg most heartily to thank you for the kind and generous reception you have given us, and in the same spirit to tender you our great acknowledgment of the same.

I would also acknowledge the kind invitation and welcome of Gen. Ward to the city of Cincinnati; to Lieut. Gov. Hickenlooper for his equally kind welcome to the grand State of Ohio, and to the Hon. Geo. Bain for our welcome to the acquaintance of the American millers.

Permit me to say that the universally expressed desire of our American friends to contribute to our comfort and benefit has far exceeded our most sanguine expectations, and inspired us with the feeling of being at home, and not far away in a distant land. Many an incident occurred on our voyage across the Atlantic which seemed to say that America was stretching out her hands to welcome us before we set foot on her soil. The birthday of our beloved Queen Victoria occurred during our voyage, and an American gentleman named Greenough proposed

her health in such a courteous and generous manner as sent a thrill of delight through every English breast present. Many of them shook hands with him and thanked him for his gracious act.

On our arrival at New York we were met by Mr. Howard Lockwood, of the *Millers' Journal*, who kindly had made provision for our reaching the St. Nicholas Hotel, and also for our seeing many interesting parts of that important city. Col. Gordon also showed us great kindness in accompanying us to Niagara, and was most industrious in enabling us to see the wonders of that region, and also in landing us safe at Cincinnati, and since our arrival here we have been overwhelmed with the courtesy and kindness which we have met on every hand.

Now may not all these manifestations of kindness be ascribed to the fact that the English and American nations are allied by blood, by language and by our indomitable perseverance in commercial enterprise?

America, I think, will readily admit that in the early history of her peaceful career she was greatly aided by the science and experience of the old country, till now, by her own skill and marvelous progress, she is able to return instruction to the old country; and although it is not always easy for the father to receive graciously the instruction of his child, I hope we millers, who are here with you, may be able to disabuse our minds of any old or rooted prejudice that may have hitherto swayed us, and rightly and duly to appreciate the instruction you so liberally tender to us in your Exhibition.

And I have no doubt, when we have gone through it, we shall be able to say, as we can now say of Niagara, that it far exceeded our most sanguine expectations. With respect to the result of your Exhibition we wish you may more than realize your anticipations, and find that while you have conferred a great boon on the world at large you have secured to yourselves a lasting benefit.

Our experience in the old country has been that wherever exhibitions of milling machinery have been held they have contributed lasting good to the milling interest.

Mr. President, and all who are concerned in the conduct of your laborious undertaking, on behalf of the millers whom I represent, again I thank you for your kindness to us, and to say that should we have the courage to get up a milling exhibition in our country, I hope and believe that we shall fully reciprocate to American millers the kindness and courtesy of Cincinnati.

The Chairman next introduced Mr. J. J. Van den Wyngaert, or Berlin, who said:

MR. PRESIDENT, LADIES AND GENTLEMEN: After the speeches made by the orators in their mother tongue, it may be a grand risk for me—for a German—to undertake to address you in the same language. But what gives me the courage to do so, is, first, that the nature of the American people, giving always the best, is that they like to see that we not fear a visit, and the second reason why I make the experiment is that the same people are very indulgent to grammatical faults made by a stranger.

As for the rest, it is a pleasure for me to embrace the opportunity offered here to express myself, and I think it my duty to do it in your language as well as I can.

This need arises from the thanks given for the great kindness and loveliness with which I have been received and accompanied in all my steps in your land; for the courtesy they showed from all parts, and for the assistance they granted me as soon as I looked for it.

Herewith I render my thanks, and I join with them the greetings given me to bear from home to the trade fellows in this country, and especially to the managers of this exhibition.

Our Government as well as our Association of German Millers has looked with the greatest interest upon your project in this special exhibition, and both took great pains to bring it to the knowledge of those interested, and to exhort them to partake therein. And if their participation is no longer to-day, you will excuse it, first, by reason of the great distance; second, by the large number of exhibitions which so rapidly follow each other; and principally by the system of high duties which render international traffic in industrial products, if not impossible, very difficult.

I received, as well from our Government as from the Millers' Association, the agreeable mission to visit your exhibition and your land, to look at and gain information from both, and report about it. For all I have seen up to this moment I am sure to go home with a large treasure, and, of course, I feel very thankful for it, too.

And, as it is my rule to pay my debts as soon as possible, allow me to express my best thanks before-hand, and to join to them that I not only came over to receive, but also to give, and that I will be ready every time to give information upon our management and processes, and so I will contribute to the exchange of thoughts and opinions which I hold will take place in this exhibition and be useful to both.

Because the proposition of our trade is the preparation of the chief food for mankind, it is our duty to make it as just and sound as possible. This exhibition, which I now heartily congratulate, will surely contribute toward it, and the city of Cincinnati, where it is held, which I desire to thank very heartily for its kind reception, I hope may be the first to profit by it in better bread. I wish for the exhibition the greatest success, and for this city increasing prosperity.

President Gault then spoke as follows:

LADIES AND GENTLEMEN: As presiding officer of the Board of Commissioners, it now becomes my duty to formally announce the opening of the first Millers' International Industrial Exhibition. In doing so, I wish to make a few remarks upon the character and magnitude of the enterprise in which we are now embarked. The value of the grain and milling interests of our country can scarcely be estimated, but when we consider that the mills of St. Louis alone consume daily 60,000 bushels of wheat, and ship over 12,000 barrels of flour per day to all parts of the world, the scope of this industry will at once be recognized.

In this building will be found every detail which enters into the manufacture of that universal and necessary commodity, bread. From the magnificent automatic steam engine, which furnishes the power, to the simple mill pick to dress the burrs, and the baker's oven for converting the flour into bread—all are here submitted to your inspection.

In this exhibition you will find the greatest display of steam engines the world has ever known. Many attempts have been made during the past thirty years to secure competitive test trials of these beautiful specimens of engineering skill, but never before have the representative automatic engines been brought together for critical, expert examination.

The complete flouring mills, representing every

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known process entering into the manufacture of flour, and the large and varied array of special machines and appliances of both foreign and domestic manufacture, for use in the modern flouring mill and bakery, can not fail to interest even the casual observer.

To the Executive Committee of the Millers' National Association, and particularly to the Hon. George Bain, its President, are we indebted for the holding of the first Millers' International Exhibition in this city. And our thanks are due to the merchants and manufacturers of Cincinnati for the liberal guarantee fund which we command.

Ladies and gentlemen, with the hope that this will not be the last, I now declare the First Millers' International Exhibition open to the public.

Somebody sent up a big floral horseshoe, with "1880" worked in with flowers, and the meeting adjourned, the millers to wander through the Exhibition and to see the engine started.

Yesterday the sights of the great Exhibition were in rather a chaotic state—the normal condition of affairs on opening day at all Expositions. Of the five great engines that are to co-operate in providing power to the vast number of machines of all kinds in Power Hall, only one was ready to start at the hour announced. On all hands, however, there was a scene of bustling activity that compensated for the tardiness, which was accepted as a matter of course. In the machinery department, mechanics by the score were fitting shafts and pulleys and attaching belts, connecting long lines of steampipes, and putting finishing touches here and there to displays of great magnitude. It was plain from even a hurried run through the building that within a day or two all will be shipshape, and present a spectacle that ought at least to cause the eyes of our citizens to open wide in astonishment and wonder.

The millers and millers' machinery manufacturers have evidently gone into the enterprise with a great deal of enthusiasm; one firm at least has expended no less than \$5,000 in fitting up a display, and will place before the eyes of the public the entire process of flour-making, with the latest styles of machines, all made here in Cincinnati.

Saving the aisles, Power Hall is almost literally filled with machinery, from floor to roof. The sight is imposing, and aside from the interest which will come from the ingenious apparatus in operation, the bright yellow of the varnished pine adds a charm to the exhibit that all former displays in this department have had to forego. The second floor of this building is occupied by lighter machinery than that below, while the front rooms, which were filled at the Exposition of last year with groceries and provisions, is now occupied by glass cases filled with beautiful silk bolting cloths, with cotton bags, and the like. This is what is seen at a hurried glance, and while one walks through this part of the Exhibition without loitering. If he wishes to learn the great lesson of the advance made within a generation in the science of milling, he must needs temper his haste with moderation, and mounting the steps which lead up to the platforms, on which some of the best displays are mounted, place himself in the hands of the first accommodating graycoated man he sees. Then, with his boyhood recollections stirred up by a glance at the little water-mill in Horticultural Hall, he will be prepared to marvel at the productions of that busy intellect in its efforts to cheapen and better the staple of mankind's food.

Music Hall not being used for the purposes of the Exhibition, it is no thoroughfare, and to reach the other department of the show we pass through a covered passageway which has been built along the rear of the buildings. It is snugly built and roofed over so as to provide a comfortable walk in all kinds of weather. It has given the exhibitors much room hitherto wasted, and barring that the surroundings are less pleasing and power can not be had, it is every bit as good a place far an exhibit as Horticultural and Power Halls, being excellently well lighted both by night and by day.

The southern side of Horticultural Hall is devoted to the aesthetic. Here is the cool grotto, and the flashing cascade, from whose basin a wooden chute carries a stream of water to run the water mill previously referred to. The picture is a pretty one: A straw thatched mill, a moss-covered overshot wheel, with the water pouring merrily from its buckets, and beside it the pile of rocks, dripping with water and furnishing sustenance to a dozen little pines and cedars and other plants that relieve the gray rocks with their bright green. West of the mill, in the southwest corner of the hall, stands the Vienna oven, in which, after it has been heated for two or three days more, the interesting process of baking will be carried on. Fire has been in it day and night since last Thursday, and when it is once heated there will be no need of further firing, save the occasional burning of an armful of shavings, for a month. This corner in which the baking will be done has been cut off by frame partitions, which are mostly windows, so that though visitors are prevented from crowding in upon the bakers, they can get as full a view by looking in at the windows. And who shall say that this recognition of the Paul Pryishness of human nature will not add interest to the exhibition? In other parts of this hall are displays of stoves, and baking powders, and mill stones, and models of milling machinery, and the restaurant, which is a very essential feature of these great shows. The floor above is principally devoted to the grain display. It was in a very incomplete state yesterday, but there was enough to show that it will be a wonderfully interesting show, especially to the foreign visitors. It is principally located in Chorus Hall, and its walls are covered with sheaves of wheat and the cereals of the great West and Northwest variously displayed. One corner of the large room has been partitioned off as an exchange room, which is in charge of Maj. Charles Gilpin, superintendent, and Geo. Sutterer, assistant. Here millers and grain men will meet daily for conference and business. Bulletins will show the state of the grain and flour markets; messengers will be on hand to summon men whom it is desired to see from any part of the buildings; telephones will afford communication with the business section of the city, and a telegraph operator will be ready to assist in the transaction of business in his way. Here, too, will be kept a register in which visiting millers and grain men, officers of boards, and newspaper correspondents are requested to enter their names, occupation, and place of local residence to aid in the transaction of business. It will be a ready reference directory, by means of which visitors can find out the whereabouts of each other.

MILLERS' CONVENTION.

Seventh Annual Meeting of the Millers' National Association.

Held in the City of Cincinnati, Ohio, June 1st, 2d, and 3d, 1880.

OFFICIAL REPORT OF PROCEEDINGS.

[Reported for the United States Miller.]

CINCINNATI, June 1, 1880.

The Seventh Annual Convention of the National Millers' Association was called to order in Music Hall, at 3 o'clock this afternoon, by President George Bain, of St. Louis. He said:

Gentlemen, I am very sorry that there was a misunderstanding about the meeting of the Association. It was advertised in some of the papers of the city that we would meet at 10 o'clock, in others at 11 o'clock, and in others still at 2 o'clock. You are aware that heretofore we have generally met at 10 or 11 o'clock. There are so very few persons here now that I scarcely feel like calling the meeting to order, but I suppose that when the real business of the convention comes up, we shall have a larger attendance of members. Most of you gentlemen are doubtless aware that on the first day there is very little to do but hear the President's address, and that is very tiresome, and possibly for that reason some did not come to-day.

He then read the following address:

PRESIDENT BAIN'S ADDRESS.

Gentlemen, members of the Millers' National Association and visiting brethren. It affords me unmixed pleasure in opening this Seventh Annual Convention of the Association, to see so many of the milling fraternity present, and to hope that the present meeting will be as pleasant and profitable to you, as our former gatherings were to those who participated in them. The Executive Committee, in planning the exhibition of milling and mill machinery, and the Board of Commissioners in carrying it to so successful an opening as the one we had yesterday, deserve the warmest thanks of not only this body, but of every miller and inventor in this country, and indeed in every country in which milling is carried on. The Commissioners have done an immense amount of labor, as you can readily appreciate in looking over the results. I trust hereafter, if not annually, that at least every third year, we shall have a similar exhibition. To it we are indebted not only for the large attendance from the United States and Canada, but also for the large and influential delegations that have honored us from Great Britain, Germany and France. To every gentleman, and especially to those who have travelled so far to visit us, I extend a heartfelt welcome on behalf of the Association and assure them that its members feel quite proud that so young an organization as ours has had influence enough to draw them so far.

I do not intend to inflict upon the convention any extended remarks, first, from fear of boring you, secondly because this is the sixth time I have addressed you on similar subjects, and have pretty well exhausted them, and thirdly, I have no doubt but that your committees who have taken charge of special matters will treat them much better if the President lets them alone. One or two subjects, however, I feel that I ought to speak of, first of which is that of transportation.

As you are all aware, doubtless, in September of last year, the Eastern trunk lines of railroads formed a combination or "pool" to control the rates of freight from the producing States to the seaboard, and unlike several previous endeavors in the same direction, this one has been successful, and as nearly all the Western roads are also "pooled" from competing points, the business interests of the country are in a manner at the mercy of a very few capitalists, and their interests will naturally be to make all the money they can out of their investments. So far they have been comparatively decent; their rates of freight, though double and even treble what they had been, have not been very exorbitant in view of the fact that for three or four years back they have been carrying freight at low rates, often indeed under the cost of the labor, but with success they may and probably will insist on such rates as will put the producers and manufacturers entirely under their heels. Only a short time ago they found their inland arrangements working so smoothly, that they started to prevent Western shippers taking advantage of the ocean competition at the different seaboard cities, and amongst the different lines at the seaports, by making a uniform through rate by either port and arrogating to themselves the privilege of diverting it as they saw fit, but the Merchant's Exchanges and Boards of Trade of the West protested so promptly and emphatically against it that I believe the scheme has been dropped. You, who have been doing an export business in flour, direct with the consumers, can readily appreciate how quick your orders would cease when your customer was advised that he could not be assured by what line, either inland or ocean, he might expect his property, or through what seaport it would go. Even at a little greater cost he would prefer to buy at the seaboard and select his own line and time. To those millers who have not been direct exporters, I would explain, that while the other day I got a rate at Boston on 200 tons of 15 shillings to Liverpool, the best I could do in New York was an 18 shilling 3 pence rate, while Baltimore was stiff at 22 shillings and 6 pence per ton. The same disparity obtains on London and Glasgow freights, Montreal and Portland often giving as much lower rates to the latter port than we can obtain in New York or Baltimore.

We must endeavor if possible before we adjourn, to perfect some plan that, while allowing the railway owners fair rates and good interest on the investments, will prevent their ruining the breadstuffs trade of the West. Several of the Western States have been taking steps in the matter with the so-called "Granger" laws, that have not been successful; the State of New York has been examining the subject, while Congress has also been wrestling with the problem, and perhaps something feasible will be reached by our law-makers, but in my humble opinion, if we could only keep the trunk lines from combining, competition as in every trade would pretty ef-

fectually solve the transportation question. As it is, the lakes, with the Erie canal and the St. Lawrence river, give the Northwest some relief during the summer months, and our great Mississippi river is becoming more and more a factor in this question. The completion of the jetties at the mouth of the Mississippi, through the engineering skill of my fellow townsman, Capt. James B. Eads, has accomplished results truly wonderful. While in 1870 only some 66,000 bushels of grain were shipped from St. Louis for export via New Orleans, and in 1875 only 309,000 bushels, the year 1877 saw over four millions of bushels take that route for a market. Just before leaving home I asked the Secretary of our Exchange, Mr. Morgan, to give me the figures up to the middle of May as compared with last year, and they are perfectly astounding. January 1st to May 14th, 1879, 1,760,288 bushels corn, 250,084 bushels wheat; January 1st to May 14th, 1880, 5,563,015 bushels corn, 870,635 bushels wheat. In less than four months and a half, one hundred times as much as during a whole year a decade ago. As the Mississippi Valley States produce over ninety per cent of the corn crop of the country, and over seventy per cent of the wheat raised east of the Rocky Mountains, as the river tonnage will be doubled the coming year, and as ocean vessels will seek the port that will furnish full outward cargoes, and as prices of wheat and corn will doubtless rule high the coming year, I would not be surprised if the competition of the "river route" would be wholesome enough to counteract any intended imposition on the part of the railroad combinations. The chairman of your Committee, Mr. Hinds, has been giving this transportation question some attention for a year past; he has invited some gentlemen versed in it to address you, and I trust some beneficial light will be thrown on the subject.

Collateral with the ill-effects that may come on us from the railway monopoly, is the subject of grain gambling, which has been so terribly detrimental to the producing and milling interests of the country the past year. If any of you could suggest any means, legislative or other, by which a stop could be put to it, you would benefit the whole world. The "ring" that was so successful in manipulating the wheat crop of 1878, have worked it so much more scientifically this year, that while putting money into their own pockets, they have certainly taken ten times as much from the producer in the United States, by compelling the European consumer to seek other grain producing countries that were willing to market their surplus at a fair price. You all know that while our exports of flour are some fifty per cent greater than they ever were before, the millers' bank account, as a rule, is somewhat more attenuated than it was a year ago. I see no remedy except in these operators losing so much that they will turn their attention to something else. The rumors of the "collapse" of the "American ring," current in the newspapers on both sides of the Atlantic, have not been well founded. I doubt if they do not hold to-day as much wheat as they did at the commencement of the season, and if they have not made ten times the amount by the scientific process of "milking," they practised this year, than they did by their "bulldog" policy of last.

While harvest has commenced in some of the Southern States, the amount of wheat raised there cuts very little figure in the crop of the country. In Texas and some parts of Kansas the drought will reduce the yield somewhat, while the blight has done some damage in Kentucky and Tennessee, and, as usual, some of the farmers in Southern Illinois and Missouri have raised the usual cry of "wolf," but from all I can learn with the large percentage over any previous year sown to wheat, if we are only favored with good harvest weather, we will raise the largest crop of winter wheat this country has ever seen. The spring wheat crop, so far as I have heard, looks fairly well, and unless something untoward occurs, will be larger than that of last year.

I have been trying for a year past to have something done toward getting some college in or near some milling center, to add a technical department of milling. There is no trouble in finding a college, but I have so far found it impossible to get any mill that will allow students from such a class to receive practical education through it. In my opinion, no better step could be taken by this Association than the building of a mill for this purpose, as also to test and experiment with new machinery, and the different varieties of wheat. I trust the Committee has matured some plan that will receive the endorsement and pecuniary support of this convention. While on the pecuniary strain, I might as well mention something that I feel sorry being compelled to say anything about. While some States have been prompt in responding to calls for money necessary to carry on the litigation that still annoys us, others have been very dilatory, and others again have simply paid little if any attention to them, and it has made the Executive Committee heartsick at the inertness of the officers of some of the State associations, knowing as they did, that the rank and file, as judged by some of the States where the officers were the least bit painstaking, had the good of the Association at heart, and were prompt in paying assessments.

Many of the committee have been so thoroughly disgusted as to advise the breaking up of the Association, simply because it looked, by the action of some of the States, as if their services were not appreciated, and that individually they could have settled these patent claims, so far as their own mills were concerned, for the amount they had paid into the National Association, and saved all the worry they have had and the work they have done for the benefit of the whole fraternity. I should strongly advise a most stringent rule in reference to the payment of these assessments, looking to the cutting out of all dilatory or non-paying members, the early compromising of all claims, whether just or not, on the remaining members, and then let these gentlemen who seem to enjoy their *otium cum dignitate*, so well, wake up and take share of the brunt. I am speaking, perhaps, a little too strongly on this point; but if some of you had suffered the pain and annoyance your executive officers have gone through the past year, you would not only pardon me, but also suggest that a little profanity would be excusable under the circumstances. The status of the Cochrane, Denchfield and other suits will be explained to you by the Executive Committee, and the Treasurer's report will explain your financial standing.

In conclusion, let me thank you for your kindness in listening so patiently to my desultory remarks, and ask you, as in former years, to bear with me and assist in presiding over your deliberations, assuring you in advance that what mistakes I make will be, as usual, purely "of the head."

Gentlemen, some of you, perhaps, were not here yesterday at the opening of the Exhibition. I therefore take pleasure in introducing again Mr. Samuel Smith, Vice President of the British and Irish Mil-

lers' Association. Mr. Alderman Hadly, who intended to be with us, being prevented from accompanying the balance of the delegation.

The Association rose and recognized Mr. Smith, who was seated upon the platform. President Bain then introduced Mr. Wm. Hibbard, Vice President of the English party, mentioning him as the orator of the day. Mr. Hibbard was heartily received, and spoke as follows:

We have had a very great welcome here in Cincinnati. Hon. Geo. Bain says that I am the orator of the occasion, but I do not know why he should say so. I never made a speech before in my life until yesterday. [Laughter.] I was pushed into it, and I did the very best I could, as you yourselves would do I suppose. [Renewed laughter.]

We came here with the hope of getting as much information as possible in regard to your milling methods, and our party will be very glad to give you all the information we can in respect to what we are doing in our country. As respects bolting, nine-tenths of you are very far ahead of what we are in England. I have been through one of your mills since I have been here, and I think it is very far ahead of us in that respect. You use four or five times as much silk as we do, and you get good results from it. You have also, and many of them are exhibited here, all sorts of fancy devices for the manufacture of the best flour. Certainly there are purifiers enough represented in these buildings to purify us all out of the world. I do not think in England we are using anything like the quantity of purifiers that you are, and, in fact, we cannot do it, for our wheats are softer than yours. We have, in fact, no hard wheats at all, except the cone wheats, which are very poor with us. I find a great many of your winter wheat millers are trying to make flour on the Minneapolis system, but I do not think you will succeed in making it pay. I never like to prophesy, but I think that in less than ten years you will see nearly all rollers in Minneapolis in place of the stones now in use there. Their wheats are very similar to those of the Hungarian millers, and in that country they have paid for their mills in a very few years by the adoption of the roller process. Your winter wheats we value very highly in our country, and we find they make a very large percentage of flour, of splendid quality. I do not think we are importing any other wheats from any part of the world so good. We are using wheats from Germany, some from France, but none this year. We get wheat from Australia, which is very fine and heavy, weighing 68 pounds to the bushel, but the wheat that suits us best in England is the spring wheat.

We have had nothing in Liverpool or in London of the Minneapolis wheats for over two years, but in America the first mill we went into we saw better wheat than we have had in England for two years. We are very sorry to come to the conclusion that you keep your best wheats for yourselves and send us the worst. [Laughter.]

I bought forty bushels of wheat in Gloucester not long ago. I gave 52s a quarter for it, and after it had gone through the gleaning machinery we took 15 per cent refuse out of it. So you see that it cost me 57s. I did not buy any more of that. [Laughter.] More than that. I told my fellow-millers in Gloucester not to buy it. I should not like to say that it had been watered with screenings in this country, but it looked very much like it. I suppose you have in your country men who are not altogether honest, as there are to be found also in all countries. But one thing is sure, that, if we get only the worst of your wheat, we will not be able to compete with you. [Laughter.] But, after being once bitten, we get shy, you know, and are not so eager to buy again.

I do not know that I can tell you very much further from our side of the water, so I will sit down. [Applause.] Oh, there is one thing that I had forgotten, that is to thank President Bain for the very kind manner in which he has received us. You have an expression, I believe, in your country about the latch-string. I will say that, so far as we have gone, we have found the latch-string on the outside.

Committee on nomination of officers for the ensuing year were then made as follows:

W. L. Small, York, Pa.

W. P. Brown, Rsd Wing, Minn.

O. W. Baldwin, Ottawa, Kan.

Fred Woodward, Illinois

J. H. Hinds, Rochester, N. Y.

This Committee was instructed to meet to-night in room No. 112, at the Grand Hotel.

Mr. L. D. Sparks, of Alton, Ill., took the floor and spoke for an adjournment of the Convention on Thursday, or as early as the Convention saw proper. President Bain replied that ample time should be taken, so that all matters of interest could be intelligently discussed.

Mr. Sparks said that his idea in speaking was to have a time definitely fixed. Before sitting down he wished to call the attention of the gentlemen present to the evils being wrought by dealers in option sales—a better name for them was gamblers. They were doing more to damage the milling interest than any other class of persons or even certain corporations. It was true that injustice was sometimes done by railroads, but they had the redeeming quality of doing actual and *bona fide* business. The option dealers did not. A few of these swindlers got in a room and there bet on fluctuations, and the only money passed was by the losers. This was destroying business, and it must be stopped, and by legislation. If laws could be made against poker-playing, there was no reason why a similar course should not be pursued against these grain gamblers. Millers had as good a right to the law's protection as any one else. [Applause.]

R. H. McGill, of Baltimore, followed with remarks indorsing the last speaker.

Adjourned until June 2d, at 2 o'clock, in Dexter Hall.

SECOND DAY.

CINCINNATI, June 2.—Convention met in Dexter Hall in the afternoon. There was a much better attendance than on the previous day. The Secretary's report, which was presented, says:

During the past year many of the States have formed an organization upon a legal basis, and experience has shown that States thus organized have been better able to collect their assessments than they otherwise would have been. It is important,

therefore, that every State not thus organized should do so at once, and that their Constitutions, when adopted, should be in accord with the Constitution of the National Association.

In getting up the accounts, showing the standing of each State in its account with the National Association, much difficulty has been experienced in getting proper reports at the proper time, and in this connection I wish to call the attention of Secretaries of State Associations to the necessity of reporting at once to the National Association every new member, and remitting the amount due from such member to the National Association as soon as received into membership. In some of the States parties were received into membership upon the payment of a portion of the \$25 assessment, and received protection for a time, but, owing to default of payment on the balance, the amounts they did pay are lost to them, as they are now outside and entitled to no protection, while a small additional payment would make them full paid and entitled to full benefit and protection. This matter is worthy of consideration by those in this situation.

We have received the sum of \$25 for members called for by the Toledo apportionment upon 3,003 1/2 runs of buhrs, divided as follows:

Maryland, 150; Minnesota, 533 1/2; Wisconsin, 400; Missouri, 263 1/2; New York, 378 1/2; Ohio, 120; Pennsylvania, 48 1/2; Nebraska, 22; Iowa, 151; Michigan, 188; Illinois, 440; Kansas, 21; Virginia, 78; Kentucky, 16 1/2; Tennessee, 3; California, 22; Oregon, 7; Montana, 2; Delaware, 6; District of Columbia, 6; Indiana, 142 1/2.

The assessment of \$10 per run, levied at the last Convention, held in Chicago, May, 1879, has been paid as follows:

Wisconsin, 402 run; Minnesota, 660; Maryland, 91; New York, 290 1/2; Missouri, 209; Ohio, 120; Pennsylvania, 48 1/2; Nebraska, 22; Iowa, 142; Kansas, 20; Virginia, 20; Kentucky, 16 1/2; Tennessee, 8; California, 21; Oregon, 7; Montana, 2; Delaware, 6; District of Columbia, 3; total paid up, 2,069 1/2, to which is to be added Illinois, estimated at 440 run; Indiana, 140; Michigan, 150. In case these estimates are correct, the full paid membership to the present date will amount to 2,800, which would indicate a falling off in our membership of 208 run.

The Committee appointed to report upon the best varieties of wheat for milling purposes, reported as follows:

GRAIN FOR MILLING.

Your Committee to whom was referred the subject of "Grain for Milling" have had the matter under consideration, and, after getting together all the information possible in the brief time we have had the subject before us, respectfully submit the following report:

In the first place, we have met with much difficulty in determining which is the best wheat for milling in the United States, on account of the vast extent of wheat-growing districts, extending through twenty-three degrees of latitude and fifty-seven degrees of longitude, having a length of two thousand eight hundred miles, and a breadth of one thousand seven hundred, covering an area of 3,250,000 square miles, embracing all the States in the Union but three, and the entire Territories, with every variety of soil and climate.

We find the same varieties of wheat grown in different States; while possessing the same general properties, differing materially in value for milling.

The Fife wheat of Northern Minnesota and Dakota being far superior to the same variety grown in Iowa, Wisconsin or Illinois.

The Boughton or Tappahannock wheat of Virginia, Tennessee and Georgia much more rich in gluten than the same kind grown in Indiana, Ohio or Illinois.

We also find a great diversity of opinion as to the merits of particular kinds of wheat grown in same localities, making it a difficult matter for your Committee to determine which are really the most desirable varieties of wheat for milling purposes.

We are of opinion that a general discussion at this meeting of the Association, where all the large wheat districts are fully represented, will do more to settle which are the most desirable wheats to use than any report your Committee would be able to make. From the information before your Committee, mostly obtained by correspondence, we find the following varieties among the best for milling purposes:

Winter Wheat—Longberry amber, Lancaster, Indiana red, Alabama, Orange, Velvet chaff, Boughton or Tappahannock, Jennings.

Spring Wheat—Minnesota Fife, China, Mammoth or Rio Grande.

The Longberry amber is extensively grown in Virginia, which, with the Lancaster, is most sought by millers, being rich in gluten and possessing properties very desirable for shipping to warm climates.

The Indiana red is spoken highly of as a fine glutinous wheat; also the Alabama, the latter but little raised, owing to its light yield per acre.

The Jennings is a white wheat, hard, gives excellent color and good strength.

The Orange makes a good family flour of fair strength and yields well in flour.

The Velvet chaff possesses good strength, and yield fairly in flour, is an early variety, grows a stiff straw, and is well adapted to strong and rich soils, where most varieties would produce too rank straw and lodge.

The Boughton or Tappahannock is highly spoken of in some localities, while in others it is not considered a desirable wheat; is a white wheat, not particularly rich in gluten, but makes a good family flour; is easily damaged by moisture.

The Fultz and Clawson are taking the lead with farmers, yielding largely, but are very undesirable for millers, being soft and weak and containing little gluten compared with the first named varieties.

The Clawson is used somewhat to mix with damp, strong wheat.

In spring wheat the Minnesota Fife is incomparably the best of any spring variety. It is rich in gluten, very hard, and yields immensely in middlings for purification and manufacture into patent flour; is essentially a "bread-making" wheat, producing a large number of pounds of finest bread from a fixed number of pounds of flour. This wheat is grown extensively in the Northwest, attaining its greatest perfection in extreme northern latitudes, particularly in Northern Minnesota and Dakota. In Wisconsin and Iowa it is much the best spring wheat grown.

The Rio Grande, China, or Mammoth is a large berried, heavy wheat, yielding well in flour, and next to Fife in glutinous properties; is particularly adapted to weak lands, having a rank growth of straw, and standing drought remarkably.

The Canada Club we consider the next best spring variety, but is soft, makes an excellent family flour when strength is not a particular object.

The Lost Nation or Prussian Fife we consider the poorest spring wheat grown, having a thick bran,

very soft, weak in gluten, not even making a white flour. It is grown extensively in Wisconsin, Iowa and Minnesota, yielding well, and is considered by farmers as being safer of a crop than Minnesota Fife, China or Club.

Before closing this report we wish to acknowledge the obligations we are under to the millers of this Association for valuable information, and more particularly to Messrs. Small, of Pennsylvania; Thompson of Indiana; Hayes, of Michigan; Halliday, of Illinois; Haxall, of Virginia, and Baldwin, of Ohio.

WALTER S. GREENE,
J. A. KIMBERLY,
Committee.

PATENTS.

The Committee on Patents recommended:

1. More liberal appropriations by Congress to the Patent Department, enabling closer scrutiny of application for patents, and consequent avoidance of the too frequent granting of patents on claims in which the essential features of novelty and usefulness are wanting.

2. The abolition of the practice of reissue under new date or title, and sometimes for new things scarcely hinted at in original.

3. The establishment and maintenance of a special Patent Court at Washington to determine the validity of patents, before which Court all parties directly or remotely interested in any case pending, shall have ample time and opportunity to be legally and publicly heard.

4. The annual assessment of such a tax upon existing patents, as can only be paid by owners of useful patents, and which, in default of payment of renewal tax, will free the records of worthless patents.

5. A reasonable limit, during which an inventor or patentee must successfully introduce his improvements to practical use and notice, in order to claim against any who may thereafter use the same.

6. Some more reasonable measure of damages with reference to actual benefits in cases of established infringement.

7. Greater restrictions to the granting of injunctions, before the validity of patent has been tried and established; and also preventing the fixing of excessive bonds, in cases where temporary injunctions are granted.

8. An amendment to the effect that when new suits are begun under the same patent in which a decision has already been made in a lower Court and appealed in a higher Court, the defendant may demand a stay of proceedings pending decision in the higher Court, and that he may become a party in the pending suit; avoiding the unnecessary expense of special defense, requiring the taking of testimony, construction and explanation of models already of record.

Finally, to give force to these recommendations, or to originate other useful measures of protection, the Association should make itself financially strong enough to pay for legal services, either direct or by co-operation with other associations, many of which are largely interested in patent reform. We should have some one in Washington on the alert to prevent the granting of fraudulent patents or re-issues, to urge the needed amendments before the Committees of Congress, and when proper measures are pending to advise the Association, with a view to each section urging its Representatives and Senators to favor the passage thereof.

THIRD DAY.

CINCINNATI, June 3.—The Millers' Convention occupied Dexter Hall this afternoon. The Committee on Mill Machinery presented a lengthy report. It recommended for general use as purifier the vibrating sieve, with suction above the sieve and brush and blast below. In regard to the practical reduction or roller system, it says the system is now claiming the attention of millers generally, and is fast gaining favor, and it is evident that the time is fast approaching when the system will be more generally used, and the millers are recommended to carefully examine the mills on exhibition. Wheat heaters, the report says, are now considered a necessity for mills that are expected to run in cold weather.

The following Committee on Milling Machinery was reappointed for the ensuing year: Nic Ellis, Evansville, Ind.; Robt. Tyson, Baltimore, Md.; D. E. Roberts, Maysville, Ky.; Homer Baldwin, Youngstown, O.; J. F. Woodbury, Marshalltown, Iowa.

MILLERS' COLLEGE.

The following report of the committee appointed to consider the propriety of establishing a Millers' School, was presented and listened to with great attention:

MR. PRESIDENT AND GENTLEMEN OF THE ASSOCIATION: Your committee appointed to consider the question of establishing a millers' school or college are sorry to say they have not been able to agree upon any definite plan or course of action. The subject has been so fully and ably presented for your consideration by former committees, and so thoroughly discussed by the milling press generally, that it leaves but little new or instructive for your present committee to say, and we have, too, an acute appreciation of the value of your time at this hour, surrounded as we are by the skilled of our fraternity from every civilized nation on the globe to impose upon your willingness to gather all the information relating to the milling interest possible by repeating the arguments and views that you have without doubt already considered; hence it would appear that the only thing for your committee or those joining in this report to do would be to suggest some place by which the theories and plans already advanced to your notice can be tested by a practical demonstration, and with this object in view your committee would present the following resolutions for your consideration:

Resolved, That there be a Committee of three appointed, with Mr. Frank Chamberlain, of Albany, New York, as Chairman, whose duty it shall be to ascertain the amount of assistance they can obtain for the establishment of a Millers' School or College from the following sources:

1. What city or milling center, if any, will guarantee the largest fund for the permanent location of such a school or college therein?

2. How many millers or others will subscribe for one or more shares or scholarships for such a school or college?

3. The amount and what kind of mill machinery investors or manufacturers will furnish for the establishment of such a school?

4. If it is practical and proper to apply to the

General Government for certain franchises for such a school.

5. That the Committee be requested to consider any other plan that may suggest itself as practical from which to obtain aid and assistance, and the Committee are hereby empowered to arrange and perfect, so far as possible, any plan that may be able to evolve from the above inquiries in relation to establishing such a school or college; and,

Resolved, That the Committee may meet from time to time, at such place or places as may best suit or subserve the interest of the enterprise of which they have charge, and that they use due diligence in prosecuting the same; and,

Resolved, further, That for the purpose of enabling the Committee more fully to carry out the above resolutions, there be, and hereby is, appropriated \$—, or so much thereof as may be necessary to pay the actual expense of said Committee out of the funds of this Association, to be paid on the order of the President, approved by the Sub-Executive Committee, and countersigned by the Secretary of the Association.

The first point in the resolution makes it possible for some large milling center, at a small cost, to place in its midst a very desirable institution, from which it would receive large and lasting benefits; for this school or college would in time attract to its portals the products of the ablest inventive geniuses of our age. There will come the great bulk of the meritorious inventions to be passed upon by the trained mechanical students, that will as naturally seek the workshop of this College for development as the orator seeks the forum.

Our second count, as to the scholarship is one that will invite the ambition of every young aspiring miller in the country, as well as enlist the sympathies of hundreds of other millers and business men of affluence, who desire to leave their sons such an inheritance as will defy alike the wiles of the crafty and sheriffs' executions. From this source the school will derive its future and main support. And your Committee are of the opinion that many of this class will contribute to the building up of this school, that will never come in competition with their less fortunate brothers, but as equally deserving of encouragement to develop their ambitious desires as the more favored.

As to the third count, your committee have not had the opportunity to consult with inventors and manufacturers, but our knowledge of their enterprise and push, however, lead us to believe that samples of a large majority of the most practical machines would be placed at the disposal of such a school. In conversation with a manufacturer, he stated an endorsement of the machines manufactured by his house of such an institution would be of great value as an advertisement alone. It is not in our province, Mr. President, to enter into an extended discussion on this point; for if this school should be established there would be such a mutual interest existing between the inventor or manufacturer and the school that to attack the one would be to assail the other, and the benefits accruing to the milling interest from these co-workers would be such as has not yet been thought of by the most advanced minds of our fraternity.

The fourth count in the resolutions is susceptible of discussion. Congress, however, being liberal with its efforts to furnish aid for those engaged in developing fish, tea, saccharines, and other condiments to the staff of life, it might not be amiss to ask it to look over the great wheat interest of the country, and devote a small pittance of the vast amounts of despised coin now lying around loose for want of storage-room, and refused alike by the creditors and banks, and thus assist in securing a more perfect and economical way of disposing of it to our far-off customers. Your Committee are of the opinion that the Government which fails to comprehend the disadvantages under which its people labor, is far from understanding the true principles of political economy when it permits its greatest products to leave its domain in a raw or crude state, when it adds vastly to the nation's wealth by being more perfectly prepared for the consumer's use, thus aiding home industry and saving large sums in the way of transportation. This, however, will be a matter that your committee will be able to determine at the proper time.

The fifth count is one in which the Committee will find a wide range for the exercise of its powers.

The last resolution, however, is one of much importance to the Committee, if it should be thought best to adopt this report, and it is to be hoped that this meeting will see to it that the spirit of the resolutions is liberally sustained. For it should not be expected that the gentlemen appointed on this Committee, be they who they may, will be required to defray the considerable expense to which they will be subject if they faithfully carry out the instruction of these resolutions. It is a matter that belongs to every miller, therefore all should contribute toward the expense. All of which is respectfully submitted.

Considerable discussion was elicited upon this report, and the resolution appropriating funds for the assistance of the Committee in carrying out the instructions of the resolutions was stricken out, and the resolution then adopted.

On motion of Mr. Sparks, of Alton, Ill., a committee of three was appointed to consider "option deals," and report at the next session. The Committee consists of Messrs. Sparks, of Illinois; Hinkele, of Minnesota, and Baldwin, of Kansas.

The Committee on State Organization reported in favor of organizations in every State, and efforts to gain new members for the National Association.

THE TREASURER'S REPORT

showed the receipts since last meeting, May 15, 1879, as follows:

Illinois.....	\$3,500	Ohio.....	\$1,036
Indiana.....	2,417	Pennsylvania.....	672
Iowa.....	1,875	Virginia.....	270
Kansas.....	400	Nebraska.....	190
Maryland.....	410	Wisconsin.....	2,500
Michigan.....	2,283	Kentucky.....	402
Minnesota.....	1,500	Montana.....	20
New York.....	500	Dist. Columbia.....	30
Missouri.....	1,931	Delaware.....	150
Oregon.....	270	Tennessee.....	105
Paid to attorneys.....		Experts and witnesses' traveling fees, etc.....	\$1,477
Secretary and Treasurer, including office rent and other incidentals.....		Secretary and Treasurer, including office rent and other incidentals.....	1,129
			3,000
Total expenditures.....		\$20,615	
Balance on hand.....			\$1,639

WHAT THEY THINK OF THE EXPOSITION.

The Executive Committee, in a general report upon the work of the year, say of the Exposition:

Chicago was thought to be best adapted for the Exposition, but the eager and generous offer of Cincinnati induced your Committee to award to the Queen City of the West the holding of the Exposition

sition. We must state here that the representatives of the city of Cincinnati met a number of your Committee at St. Louis for the purpose of negotiation, and everything we did ask for was cheerfully accorded to us. Cincinnati agreed to shoulder the whole responsibility, bear the whole burden of the work and expenses, while our Association in a great measure is having the credit for it. We accord to the Cincinnati gentlemen having this matter in charge the full thanks of your Association for their generous liberality and their uniform kindness displayed to us. The good work they have performed is now open to your inspection. It is wonderful in its grandeur; it is so vast that weeks may be spent in giving it the attention it merits. The Millers' International Exhibition of Cincinnati is an event affecting the whole milling interests of the world; the full benefits to be derived therefrom in real substantial progress will be apparent in the course of years only. What sacrifices Cincinnati may have made were made for a good, meritorious cause of prime importance to the whole world.

OFFICERS.

The following officers were elected for the ensuing year: George Bain, of St. Louis, President; L. Fletcher, Minnesota, First Vice-President; R. Tyson, of Baltimore, Second Vice-President.

President Bain appointed the following Special Committee on Brands and Trade-marks: Robert Atkinson, of Kansas; Wm. Lee, of Delaware, and General Burbridge, of Illinois.

Adjourned *sine die*.

The Highland House Reception.

The delegates to the Convention and Grain Congress and foreign visitors to the Exposition were tendered a reception and dinner at the Highland House last evening. It was a great success. Only two days ago did the people of Cincinnati awake to the understanding of how important a representation of a great interest was thrust among them, and then they took hold with

who has done so much for this great exposition—mean its President, Mr. George Gault. [Cheers and loud call for Gault.]

Mr. Gault refusing to speak, was literally dragged from his seat and elevated to a chair amid loud cheers.

"I never made but one speech in my life," said Mr. Gault, "and that was on the opening of the exposition. I am glad that I got through so comfortably, but I do not want to begin again to-night."

Here Mr. Gault sat down, but the calls for a continuance of his speech continuing, Mr. Bain finally rose and said:

"I will, gentlemen, out of regard for Mr. Gault's modesty, respond for him. Consider me Mr. Gault. [Cheers and laughter.] I am indebted to the Millers' Association, and (remember I'm Gault) to Mr. Bain in particular for selecting Cincinnati for the Exposition and myself as President [cheers and great laughter]. You are all greatly indebted to me (remember I'm Gault) for this great show [laughter]. I am especially proud to see our friends from St. Louis here, for that is the greatest milling center of this country, as has been happily stated by Mr. Bain (remember I'm Gault) [cheers and laughter]. I'm glad that Mr. Bain has been re-elected as President of the Association. [Laughter.] I can't close without again thanking Mr. Bain for all that he has done for this city and our Association. [Cheers and Laughter.]

Three cheers for Bain and Gault were proposed by a delegate, and were given with a hearty good will.

Colonel W. L. Robinson was then called by Mr. Bain.

"Mr. Bain," began Colonel Robinson, "evidently wants this crowd depressed. [Laughter.] We are glad to see you hunger-thriven, and only regret that the time in preparing this formal welcome has been so short. We welcome you to Cincinnati now, and at all times you may come among us. We hope that this first Millers' Exposition will not be the last one to be held here. Again, I bid you all welcome here."

At the other end of the tables brief speeches were made by Mr. S. Smith, Vice-President of the British Millers' Association, and Mr. Hibbard, also of the English Millers' Association; Mr. McLaughlin, of Toronto; J. O'Neill, of Ireland; Mr. Pearce, of England; Mr. McNeally, of Toronto; R. M. Floyd, of Chicago; S. B. Thompson, of Baltimore, and Governor Bishop.

MOSES WALPOLE handed the President of the Limekiln Club an epistle from a colored mother in Detroit who wanted advice as to what name to give her daughter. She had worried over the subject for six weeks, and now trusted that the club would suggest something which her romantic mind could accept. "In de fust place," slowly began the old man, "dis Club don't sot here at an expense of nineteen shillins a week fur de purpose of namin' chill'ens. In de nex' place, I, fur one, hev bin pained to obsarve a growin' desire on de part o' cull'd folkses to knock deir chill'en down wid silver-plated front names. Up in my block ebry cabin hez a Hortense, or a Maud, or a Genevieve, who will grow up to go bar'fut in summer an' bend ober de washtub in winter. I believe that half what ails de niggers nowadays am deir fancy names. I tole yo' it am a powerful burden for a chile to carry. No young gal wid a big foot, an' a mouf like a sasser, am gwine to look any purtier fur bein' called Cleopatra Viva Clarabell. No, sah. Ize a believer in de good ole fashun names sich as Polly, Dinah, Chloe, Sam, Tom an' Jim. Dar's sunthin' squar' an' honest in 'em, an' dey weigh sixteen ounces to de pound. Dis kentry am tryin' to git rid of 'em, an' banks am bustin', men stealin', towns burnin' up, an' tornadies sweepin' o'er the land. I tell ye, an honest, straightforward name is half to'rs keeping a chile honest, an' if I kept a grocery store I'd trust Moses all day long, an' keep boaf eyes on Adolphus!" There being no further business, the Glee Club sang *Pinafore*, and the meeting adjourned. —*Free Press*.

SOME TERRIBLE PUNS.—Punning would not be so bad were it not so infectious. Puns leave germs which lie in idle minds until they fructify and bear a baleful crop of more puns. The other day some of us got to talking about that witty old cynic, Dean Swift, when one of the company took advantage of the opening and gave us this jeu de mot of his: "Why," asked the Dean, "is it right, by the lex talionis, to pick an artist's pocket?" It was given up, of course, and the answer was: "Because he has pictures." A silence fell about the table round until, one by one, we saw it. Then one thoughtful man observed, "It was impossible to give the answer—because the Dean had contrived to reserve the answer for himself. I could not, for instance, say that it is right for me to pick an artist's pocket because he has picked yours." Here is another conundrum, founded upon a pun, which only the proounder can solve: An old man and a young one were standing by a meadow. "Why," asked the young man, "is this clover older than you?" "It is not," replied the other. "It is, though," returned the young man, "because it is pasture." Thereupon an abstracted looking person, who had not followed the line of remark, and who had not understood the illustration, startled us all with the irrelevant inquiry, "Why cannot a pantomimist tickle nine Esquimaux? Give it up? Why, its because he can gesticulate."

If you are not already a subscriber to the UNITED STATES MILLER, send one dollar at once and begin with our May number, which commences the fifth volume.

A Tremendous Spider Story.

A writer to the Chicago *Inter-Ocean* says: The following facts transpired on the farm of an honest old farmer, about two miles from the town of Plainview: Last Monday morning on entering his barn the farmer found, to his great surprise, his pet bulldog, and old cat and her kittens suspended from the cross beams in his barn. On examination he found them to be suspended by a cord about the size of common wrapping cord, the fibre of which much resembled silk, but proved, however, to be a spider's web. At first he thought the kittens which were

on the hay just above the beams, had accidentally dropped into the web, and the old cat, following the instinct of her maternal nature, endeavoring to rescue them had herself become entangled. As to the situation of the bulldog, he thought he had been trying to get at the cat while in her trouble, and had himself to succumb to the same fate as the cats, but he afterward came to the conclusion that they had been picked up by the spiders as they went about seeking whom they might devour.

The farmer went out to call in some of his neighbors to witness the marvelous scene, but imagine his surprise, on his return, he found a suckling colt ascending to the web, having been encircled by two different fibers, one just before his hind, and the other just behind his fore legs, he was being drawn up by the spiders. When the colt had been drawn up five or six feet, a spider, apparently well versed in physiology, came down one of the fibers and began boring for the spinal cord, just between the atlas and the axis, just as I have seen small ones do with flies, but the farmer was unwilling to sacrifice the colt for the benefit of scientific investigation, and so he was rescued.

The spiders were then taken from the dovecote, of which they had taken possession and killed. One measured three and one-half inches in length, and weight half a pound. They are of a dark brown color with a light stripe down their backs, strong, active, and ferocious. Several men of good repute in this section are willing to testify to the above facts.

A Holy Japanese City.

Kioto is the great religious capital. A girdle of temples surrounds it with a vast sweep of many miles. The mountains stand about it in the shape of a horseshoe, and all their lower spurs and all the dells and valleys that break them are laid out in temple grounds. The temples rise one above the other through dark belts of wood. Their gateways crowd the avenues of every suburb. Their lands are of vast extent, laid out in gardens and parks, with rustic bridges spanning waterfalls, with endless foot-paths and cascades and holy fountains, and little platforms and arbors from which there are lovely views innumerable. Every week and almost every day, there is some new festival. The brilliant dress of the women and children who keep the feast gleams along the dark, steep paths, and in the evening the lamps spring up as if in fairyland, and there is music and laughter. Worshippers can choose a service after their fancy. One temple has a gigantic bell, another its Dai Buts. Rengehoin, in one long building, displays 33,000 gilded idols; Hondanji, in the very center of the city, offers the silence of cloistered courts, and within, grave and lofty halls softly matted for the feet, the roof supported on gilded pillars, the walls hung with pictures of the saints and paneled with birds of paradise. Over and over again we met the great temple roofs, with their magnificent but heavy curves, the quaint gateways or *teri*, mostly of wood, but sometimes of stone, the court-yard surrounded by trees, the inner sanctuary with its mysterious *gohei* paper, and the burnished mirror; outside, the universal lamps, all of the one pattern, and within, the Buddha sitting on the lotus-leaf, and the gilded warrior with his weapons in his hand. Everywhere the priest moves about with his clean-shaven crown, and the nun, in long brown robes, slips noiselessly through the cloister; the pilgrims from the country stare and worship, the coins are flung before the altar, the deep and sweet-toned bells toll the hours of prayer, and the worshippers clap their hands and lie with their faces on the ground—*Good Words*.

A Story for Little Boys.

Come, boys, put a-side your tops and marbles. I will tell you a sto-ry. It is a-bout a clean boy. I hope you are al-ways clean a-bout all things you do. It is said that clean-li-ness is next to god-li-ness. Re-mem-ber that, boys. George was a very clean lad. I am go-ing to tell you one thing that he did. One day, when his dear moth-er had gone to a sew-ing cir-cle to get the news, George climbed in-to the pan-try win-dow. He found some nice rich cake there. George liked nice rich cake. I think I hear you say, "How kind his dear moth-er was to leave the nice rich cake where George could get it!" Yes. After George had ate all the cake that his stom-ach would hold, he stufed all his pock-ets full. He thought he might be hung-ry before night. George was a very thought-ful boy. Then he swept up all the crumbs. He new it would grieve his dear moth-er to see the crumbs of the nice rich cake on the floor. Jim is not a neat boy. He would have left the crumbs on the floor. When his mother came home she would have said, "Jim, you have been at that cake." Then she would have pun-ished Jim se-ver-ly. But George did not get pun-ished. He was neat and clean. His dear

moth-er found no crumbs of nice rich cake when she got home. I hope you will all be like George. Clean-li-ness is next to god-li-ness.

Co-operative Societies in Great Britain.

On the 1st of January, 1876, there were in England 926 registered co-operative societies; 287 in Scotland, and five only in Ireland; the English societies numbering 420,000 members, with a capital stock or fund amounting to \$26,100,000; the Scotch with 59,000 members and a capital of \$2,108,000. In the course of this same year the number of English societies was increased by sixty-four new ones, of which fourteen only were producing societies, the others being distributive. We see that the number of the latter is largely in preponderance, and it would be no exaggeration to claim four-fifths of the total of co-operative societies as distributive societies. They come into collision with far fewer difficulties than other societies, and when they avoid that rock on which so many have been wrecked—furnishing goods or credit—they are almost certain of success. The oldest and most famous of these is the Pioneers of Rochdale, which, established in 1843 by some flannel-weavers of this little town, who furnished altogether only the very modest sum of \$140, owned twenty years later capital of \$215,000, and did an annual business of \$750,000. The Distributive Society of Gloucester, established in 1860, did not set out in a fashion any more brilliant. At the beginning it had only twenty members, with a capital stock of about \$100; but in 1877 the number of its members had increased to 2,019, and its capital amounted to more than \$95,200, without including their three warehouses, valued at \$55,400. Their semi-annual transactions require \$133,800, and in the space of sixteen years have amounted to \$2,208,000. We ought also to refer to the Distributive Society of the Civil Employees of London, the Civil Service Supply Association, which has 4,488 regular members, with 14,980 customers admitted through favor, whose annual purchase of merchandise calls for \$2,217,500, while their sales yield \$2,405,200.

New York Editors of To-day.

The active men on the papers to-day range from twenty-eight to fifty years of age. Mr. Connery, the managing editor of the *Herald*, is forty-four or forty-five years of age, tall and thin. Mr. Ford, the de facto editor of the *Times*, is about forty-five, short and thin. Mr. Reed, the managing editor of the *Times*, is forty-six, tall and well proportioned. Mr. Whitelaw Reid is a little this side of fifty, very tall, and latterly inclining to stoutness. It has been the general impression for some time past that Mr. Hassard, Mr. J. R. G. Hassard, one of the best musical writers of the country, was the managing editor of the *Tribune*. The fact is that Mr. Whitelaw Reid's former stenographer, Mr. Nicholson, has gradually had the duties of that position placed upon him, and to-day he is all in all as the important representative of Mr. Reid. I should judge him to be fifty years of age, tall and spare. Ballard Smith, the managing editor of the *World*, must be fifty-two or fifty-three, quite tall and large framed. I don't recall—let me see—I believe the city editors of the various papers range from twenty-five to forty-five. It may be that Shanks, of the *Tribune*, is a little over that, but he doesn't show it, and Harry Hill, of the *Herald*, may be a trifle under that. A new phase of reporterdom is fast developing in metropolitan journalism. Very many of the reporters are graduates of our best colleges, bringing in addition to natural aptitude and fluency, a superstructure of comparative culture, which I think must in the end be serviceable to modern journalism. It is found that less editing is needed in the present state of things. There was a time when a reporter's copy needed so much revision as to make it almost necessary to re-write the entire matter. Now it becomes largely a question of space, and if that is ample a trifling revision, and generally that as a matter of taste is needed. In view of the fact that there are hundreds of men earning their living through the columns of our great papers, it is interesting to us, and particularly to those of us who are passing along, to know what becomes of them when they get along. Now and then you strike a happy-go-lucky fellow who doesn't care much whether school keeps or not, and whose life seems to be a perpetual holiday among his craft; but as a general thing life is hard, duty is exacting and compensation is small to the workers on the press. Charley Webb, formerly of the *Times*, and since better known as "John Paul," of the *Tribune*, married money and went into Wall street. George Alfred Townsend, whose work is as well known in the country as that of any other man, long since severed regular connection with the press, and now devotes his time to universal correspondence and special articles, and latterly has published a volume which I am pleased to know is meeting with pecuniary success. Some of our old-time writers have gone into book publishing, and one or two are in the street, but the rest—I don't know, and I fear that nobody cares.—Howard's Letter in *Philadelphia Times*.

SEVERAL young men were sitting together, and a young lady happened to approach the vicinity. One real sweet young fellow seeing, as he supposed, the young lady looking at him remarked, playfully, and with a becoming simper, "Well, miss, you needn't look at me as though you wanted to eat me." "Oh, no," replied the young lady, "I never eat greens."

Long Life.

He liveth long who liveth well,
All other life is short and vain;
He liveth longest who can tell
Of living most for heavenly gain.
He liveth long who liveth well,
All else is being flung away;
He liveth longest who can tell
Of true things truly done each day.

Minor Industries.

The prosperity and happiness of a people does not depend entirely upon either of those agricultural or mechanical industries which are conducted upon large scales. It is the minor industries, engaging the labor and attention of individuals, which aggregate the largest returns. The enterprises conducted by the women, boys and girls on a farm, such as making butter, raising poultry, eggs, etc., taken in the aggregate, are of more value than many of the specialties which farmers are engaged in producing. Such is the fact also as regards mechanical industries in cities in which employment is afforded to women, boys and girls, other than those who work in factories, and it is a matter of regret that such means of livelihood are not as available for that class in our Western country as they are in some other places.

As an illustration of what we mean we will mention an industry which is carried on in a town in Massachusetts. It consists in tying business tags and labels with bits of strings by which they may be attached to articles when necessary. The tags and twine are manufactured elsewhere. The business here is to cut the twine to suitable lengths and tie one to each tag. As small an affair as this seems to be, it furnishes employment to nearly four hundred persons, and the business which had a small and insignificant beginning has in a few years grown to large proportions, forty millions of tags a year being handled. Young children who cannot work at anything else can tie tags; mothers who cannot leave their households and children to work in factories can tie tags during odd moments as they occur through the day, and old men and old women whose tottering limbs will not take them into the active life of the busy world can sit in their arm-chairs and tie tags, for which they are paid at the rate of from twelve to seventeen cents per thousand.

This is but one of the minor industries carried on in one town for one concern. Tens of thousands of women and children, boys and girls, in the New England and other States, earn their living by these small industries, and their handiwork finds its way to all quarters of the country. Many thousands of tags are used in the West every year, a portion of which no doubt are manipulated at the place we speak of, but we do not think that any used here are prepared in the West.

HE DROVE A SHARP BARGAIN.—A nice young man employed in a cigar store on King street, Toronto, resolved the other day to present his intended with a nice pair of boots. He accordingly procured her measure, and went into one of the fashionable stores on King street and purchased a \$2 pair of boots. In order to make the present appear more valuable, he marked \$5 (the amount of his week's wages, we think) upon the soles of the boots, and at his request the clerk put a receipted bill for \$5 into one of the boots. The presentation was made, and the lovers were happy as lovers should be. But mark the sequel. The girl examined the boots in the daylight, and was not satisfied. She was convinced that her lover had been cheated in the purchase of such a pair of boots at that price. She decided to go and change them, and obtain a better bargain. The next day she appeared in the store, and solicited a pair of boots, price \$4, and politely returned the pair of boots for which she said her husband had paid \$5. The receipted bill was produced, and the boot man found it was impossible to go "behind the returns." The smart girl took her \$4 pair of boots, and obtained \$1 in money, and went home happy and satisfied. The boot seller paid a bill for \$3 to the young man, who promptly paid the difference, but he thinks that girl knows more than he thought, although he had been going with her so long.

MOUNT ETNA.—The eruptions of Mount Etna, though less frequent than those of Vesuvius, are far more violent. Its great size—the height of the cone being nearly 11,000 feet, and its circumference eighty-seven miles—renders the overflow of its lava a very formidable affair. During one of the earlier eruptions the lava, when checked by the walls of Catania, fifty feet in height, accumulated till it actually overflowed them and devastated the entire town. On this occasion a peasant, cut off by a stream of lava that encircled the rock on which he stood, escaped by leaping upon a boulder that had fallen into the burning stream and thence springing on to the other bank, with no other injury than the loss of the whole skin of his face by the intense heat. The earliest recorded eruption of Etna is one mentioned by Diodorus Siculus, as coeval with the Trojan war. The next are three eruptions referred to by Thucydides, 425 and 475 B. C., and one at an earlier time not specified. These, added to the later recorded eruptions to the present time, make seventy in all. The most important are those of 1169, 1669, 1755, 1787, 1792, 1852, and 1868.

If telephones come into use for spreading sermons, the man who passes the contribution-box will need a horse and carriage.

From Germany and Austria.

The following items are translated from our German and Austrian milling exchanges especially for the United States Miller, and other papers copying any of them are kindly requested to give due credit.

A PROPOSED TECHNICAL SCHOOL FOR MILLING AND BAKING IN THE CITY OF BRUCK ON THE MAIN R.—One of the leading and most important branches of industry in Austria and Hungary is that of milling. The mills there are nearly 50,000 in number. The value of the grain yearly ground is almost 1,000,000,000 of florins—(1 florin, 40 cents.) Besides supplying the inland market entirely, flour to the value of many millions of florins is annually being exported to foreign countries.

It is to be regretted that the industry of milling as well as that of baking are yet carried on for the most part in such a very primitive way, and it is through these imperfections in the trade that the country incurs great losses, which are estimated by experts as amounting to more than 200,000,000 florins annually.

Since millers and bakers have as yet only been able to learn their trade practically, that is to say imperfectly, the improvements and inventions have of late, however, caused an entire revolution of the whole trade, it is an absolute impossibility for the owners of some mills always to supply their establishments with the newest machines, and thus to keep step with the improvements and enable them to compete with other mills.

This circumstance is of great disadvantage, and especially the owners of small mills are more and more deprived of their profit, since they cannot compete with the better furnished mills.

The cause why many millers are so slow about furnishing their mills with the newest improvements is principally due to the fact that they have no knowledge of the best and most advantageous machines. The mere inspection of a machine at an exhibition does not suffice. What a machine can do cannot be correctly estimated before seeing it in activity.

The large mills refuse admission to their establishments, and neither in Budapest nor in Vienna, nor anywhere else, can a mill be visited, much less can the capacity of any one machine be accurately studied there.

Up to this time the inland competitors have mutually done all in their power to outdo one another by means of small, often unimportant improvements, which the owners kept strictly secret however, and a general progress of the whole trade was thereby retarded.

To-day, when the foreign, especially the American competition threatens to ruin the whole domestic industry of milling as well as of agriculture, we must do away with the old system and try to prevent the impending danger by as quick and perfect a development of the whole Austrian milling and baking trade as possible.

The erection of a school where experiments in milling and baking can be made, in which all the newest and best machines are placed and constantly kept in activity, where, further, newly invented machines are tested and examined, and to which experimental school every one could be admitted under certain conditions, and could study and examine at will the working of the separate machines and apparatus, would be invaluable for the above-named object, and the only means of meeting the danger before spoken of.

Theoretical instruction is no less an absolute necessity for the trade in question. A technical school for the education of millers and bakers, in order to be efficient, must carry out the following programme:

1. Owners of mills or bakeries can study the working and efficiency of the several machines in activity in the institution.

2. A school for practical milling for such as wish to become qualified in their trade, either as foremen or as assistants, a course of study of one year's duration would have to be instituted, during which time several theoretical branches (composition, arithmetic, drawing, book-keeping by single entry, etc.,) should be combined with the practical work of the experimental institute.

3. Higher technical school.—Those who desire to devote themselves either to the trade of milling or baking, and who intend to become officials or owners of such establishments, should undergo a course of instruction of two or three years' duration, during which time all theoretical branches relating to these trades are taught, and at the same time they can acquire the necessary practical knowledge in the experimental institute.

Bruck on the Rhine seems particularly favorable for the erection of such an institution

since a certain Mr. Till, owner of a mill and bakery in that city, has for some time back given instructions to a number of young millers, coming, not only from his own city, but from Holland and Germany, and has acquainted them with the manipulations of his establishments. Mr. Till is willing to continue this on a larger scale, and as to the erection of a school for practical milling, the city of Bruck has offered three or four apartments of its new school house there, together with heating and light free of charge.

Aside of the fact that the erection of such a technical school would enable us to work better and cheaper, and great sums would be saved by more intelligent management, which would accrue to the general good of all, a rapid progress and the greatest possible development of these trades has become an urgent necessity for Austria, the more so since in Russia, and particularly in America, the milling trade has acquired such enormous dimensions, and deprives the Austrian mills of their Western trade.

America will not long be contented to export the unmanufactured article to Europe, but will endeavor to send flour to the East, and a few years hence, in the larger cities of Austria, large bakeries will be established which will use American flour. In America very large sums have been expended for the cultivation of this branch of industry; in Austria, nothing.—*Der Oesterreichisch-Ungarische Mueller.*

WHY DOUGH TURNS BLACK.—A prominent French baker says that the turning black of dough that has been made of perfectly white flour results from an excessive fermentation of the cerealin which is contained in the gluten of a kernel of wheat. This nitrous substance is soluble in water, and since it occurs only in the outer layer of the kernel of wheat, the flour produced from the inner part is not affected in this way, which explains the fine color of bread made from flour of which the outer layer forms no part.

AT this year's general meeting of the shareholders of a large steam mill in Vienna, C. Wiener Backermühle, the directors, after stating that the trade had not been satisfactory on account of the quantitatively and qualitatively insufficient harvest in Hungary, as well as in parts of Austria, stated that America, with its bountiful harvests, cheap production, and, in comparison to ours, fabulously cheap freights, has almost monopolised the markets of Western Europe, and rendered almost any exportation of grain and flour from Austria and Hungary impossible. The Government has promised to adopt such measures as are likely to improve the agricultural industry and means of communication. Whether they will be successful or not need not here be considered, that they are necessary we are reminded by America, that is already sending its grain and flour to Austrian countries.

FROM a report of the Directors of the Vienna Baker Steam Mill Association, as a proof how popular the roller mills of Ganz & Co., in Budapest are, it is stated in a late report that the number of roll mills manufactured in 1878 were 450, while in 1879 as many as 1,348 were sold, and the number of orders already received in this year is not far below the latter figure. From another point of view this fact is interesting and satisfactory. We have succeeded in enabling our country, which imports so many expensive machines, and has hitherto exported only raw materials and unmanufactured products, to export machines also, and to a considerable extent; for, since we have begun the manufacturing of roller mills, more than 2,400 of such roller mills have been sent abroad, the value of which amounts to almost 2,000,000 florins, and which, considering that it is the production of a single factory, is certainly no mean success.—*Budapest Baker Zeitung.*

LOUIS LOCKERT, the proprietor and editor of the *Technologiste*, a French scientific paper issued in Paris, gives expression to the fact that while such a great number of technical publications are issued in France, yet the number of subscribers for them is a relatively small one. He states further that the French technical publications do not exert the same influence as the English or American journals, while edited with the same ability and having the same means of information. Lack of time he considers as the cause, since the great number of such technical publications renders it almost impossible for any one to review them all. In view of this fact, Mr. Lockert has decided to publish the so-called Lockert Memorandum, in which he proposes to publish twice a week an analytical list of

the titles of all the articles contained in the technical journals of France and of other countries with the exact address and the price of subscription for each of these periodicals. At the same time the title as well as the number and subject of new patents will be found therein. By this means all subscribers for the Memorandum could, by sending in one franc for postage, receive a brief but very clear extract of all the articles, the titles of which may be of interest to them. For the sum of 25 francs, the subscriber will regularly receive the *Technologiste*, in which all the extracts would be printed and his quality as subscriber will give him the right to have thirty extracts, according to his choice, published in this journal during the course of the year. On the other hand, all those having subscribed for the Memorandum, who should desire the translation of some article for themselves, without its being published in the *Technologiste*, need only to give notice; the price will then be fixed by agreement according to the amount of the work. It will be the same for obtaining the extracts which give the substance of all new French and foreign patents. These extracts or copies cannot be published in the *Technologiste* unless the patentees themselves wish it. This idea appears to us to be a very good one, and one that deserves imitation, as by this means it will take but a brief time to read the titles of articles treating of all important branches of industry contained in all technical journals published. The *Technologiste* serving as a means for this information will realize the conception, which is one without precedent, of a technical journal of which each subscriber has a right to direct the publication of such articles as are most suitable and proper for his own business or his studies.

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Any other books, either domestic or foreign, that our readers may desire, we shall be pleased to obtain and furnish to them at the lowest rates, postpaid, to any part of the United States or Canada.

A. Mc KAY & Sons' corn meal mill at Cairo, Ill., burned May 30. Loss, \$10,000. Insurance, \$6,000. The fire also spread to Haliday Bros., Mill, and, it is reported, did damage to the extent of \$25,000. Fully insured.

May 3 an accident happened to the Corliss engine in the Phoenix Mills, Milwaukee, by the sudden breaking off of the cushion block. The mill was about to shut down for a month, so its business was not materially interfered with. The cost of repairs is estimated to be not far from \$2,000.

John Hutchinson, proprietor of the Eagle Mills at Elroy, Juneau County, under date of April 23, writes: "Prospects for winter wheat are very poor in this section. Three-quarters of it have been killed during the past ten days, during which it has been damaged more than through the winter."

The winter wheat acreage in Wisconsin is largely increased this year. The damage from unfavorable weather during the latter part of the winter proves to be less, in most cases, than was first supposed, and there is a prospect of fair crop. Where the damage was most serious the land has been resown with spring wheat.

It may interest some wheat growers to know that Messrs. Pillsbury & Co., of Minneapolis, have just been awarded a large contract by the Government to furnish the army with flour. The contract calls for 127,000 pounds of flour at \$6.07 per barrel, and 50,000 pounds at \$6.02 per 196 pounds in double sacks.

MILLS IN CYPRUS.—A report by Dr. G. C. Gchinias and Mr. E. L. Galizia upon the capabilities of the Island of Cyprus states that in Larnaca, Zi, and in other places, steam mills are employed for grinding corn. In Kytherea water mills are used for that purpose, and in a few other localities mills are worked by beasts; windmills are rare and of a rough make. They can not answer well in every locality of the island, says the report, but if properly constructed and in convenient situations they would be very economical.

The Law on Contracts for Future Delivery of Goods.

DEFINITION OF A CONTRACT.

The late Chief Justice Marshall, in his definition of a contract, says "it is an agreement in which a party undertakes to do or not to do a particular thing," and this is probably the most accurate and concise definition that can be given.

TO MAKE A CONTRACT VALID.

To make a contract valid and binding in law three things are requisite:

1. It must be made upon sufficient consideration.
2. The parties must be competent to contract.
3. The subject matter of the contract must be of such a nature that the law will protect and enforce it—i. e., it must not be immoral, impolitic, fraudulent, or illegal.

THE REMEDY AT LAW.

The remedy which one party has in case of non-performance by the other party is twofold:

1. By a suit at law he may in all cases recover damages.
2. By a suit in chancery he may, in some cases, compel the party specifically to perform his agreement.

The first element which distinguishes a contract in legal contemplation from a mere naked promise is *sufficient* consideration. The law does not require that the consideration shall be equal in value to the service or article contracted for, nor does it require that it shall accrue to or benefit the contractor, but it does require that something be done or suffered on your part as the basis or consideration of my promise or undertaking.

IMPLIED CONTRACTS.

The law of implied contracts rests on high moral grounds, and as held and sustained in our courts is eminently satisfactory to a just and upright mind. The general principle which governs it is, that every man is presumed to have agreed to do whatever the law requires him to do; if, therefore, without *special* contract, his acts are of such a character as to create a legal liability, he is presumed to have contracted to discharge that liability, and is as much bound to do it as if he had expressed an agreement to that effect in words. The common law under which we live is flexible, and adapts itself so completely to the necessities and new phases of business that it is the boast of its professors that for every wrong it furnishes a remedy, and a large portion of the latter are worked out through this doctrine of implied contracts.

SUBJECT MATTER OF CONTRACTS.

It is generally true that competent parties may contract about anything whatsoever as they may choose, but, like most general rules, this has its exceptions, founded on reasons of public law and policy. For example, the law will not sustain any contract which its expounders and final interpreters deem prejudicial to public interest.

FRAUDULENT CONTRACTS.

It is a general rule that fraud vitiates every contract into which it enters, and this rule is enforced equally at law and in equity. Fraud is of any kind of artifice, trick, dissembling or misrepresentation by which parties are cheated and deceived. The law requires that when parties are about entering into a contract neither shall misrepresent any material matter which would mislead the other party. *Misrepresentation* and *concealment* differ quite materially. Intentional misrepresentation is always fraudulent. But there may be intentional concealment which is not fraudulent. It is certain that the law does not undertake to make all men equal, or to compel him who by superior skill or industry has obtained information which is valuable, and which, by the exercise of reasonable diligence, is equally open to the other party to communicate it; while if he has information which the other party *cannot have* of a latent defect or extraneous matters which would materially affect the value of the subject of the contract, he is bound to disclose it.

STATUTE OF FRAUDS.

Contracts are also affected, and some contracts declared void by a statute called the Statute of Frauds. This statute, enacted originally in England, in the thirteenth year of the reign of Elizabeth, and modified and extended in the twenty-seventh year of her reign, and in the twenty-ninth of Charles II., was designed to prevent fraud and perjuries by parties who, induced by important interests, might be led to manufacture, or materially change and alter parole contracts relating to certain subjects. It is still in force in England, and has been substantially copied by most, if not all, the States in our Union. One of its provisions is substantially as follows: "That no suit in law or equity shall be brought or maintained whereby any agreement *not to be performed within one year* from the making thereof, unless the contract or some memorandum thereof should be in writing, and signed by the party charged therewith."

CLAUSE PROVIDING FOR THE SALE OF GOODS.

The English Statute has also a clause providing "that a contract for the sale of goods exceeding in writing." This clause will probably be found in the value ten pounds, shall not be valid unless, first, the buyer actually receive some part of the goods; or secondly, pay something by way of earnest to bind the bargain; or thirdly, unless the contract be in statute laws of most of our States, though varying somewhat in some of them, but of the same general import. Massachusetts places the limit of the value of goods at \$50, and Connecticut at \$35, and these limits are adopted by most of the States, a majority of them fixing it at \$50.

This is by far the most important statute that has ever been enacted in its bearing upon the common and commercial law of contracts.

WHAT CONSTITUTES A SALE.

In speaking of contracts as affected by the Statute of Frauds, we have already seen that no contract for the sale of goods, exceeding a limited value (in some States \$35, and in others \$50) is valid, *unless the buyer actually receive some part of the goods, or give something as earnest to bind the bargain, or in part payment; or unless some memorandum, in writing, of the bargain be made, signed by the party to be charged therewith.* What is a part payment or delivery and acceptance becomes frequently a question of great difficulty. Past performance and delivery and acceptance call for something more than mere *words*; there must be some *act*, intended and understood by the parties to accomplish the delivery and acceptance or part performance required by the statute. For example: If I inquire the price of some goods which suit my purpose, and it is named to me, and is more than \$50, and I reply that I will take them, and the seller says, "they are yours," as far as mere words can go, it would be difficult to see how anything more could be done to constitute a sale, and yet the sale is not completed, and cannot be enforced. If, without more, the seller should present the bill to me for payment, and I decline, the sale being imperfect, he cannot enforce collection.

If the value had been less than the amount limited in the Statute of Frauds, the sale would have been perfect—above that limit it is voidable.

To complete a sale within the Statute of Frauds there should be:

First, a bargain intended to change the right of property. This is, of course, the act of both parties.

Second, a delivery of the property and of the possession to the vendee. This is the act of the seller.

Third, an acceptance and receipt of the property, and actual possession of some part of the goods as absolute owner. This is the act of the purchaser.

Now as to the sales of merchandise, such as cottons and woolens and other articles for future delivery, the parties may make their agreement in writing, or the buyer may pay part or the whole of the purchase money, or the seller make part delivery of the goods.

Practically, but little attention is paid to this branch of the statute, and probably not one in a hundred who buy goods exceeding \$50 in value, even when purchasing, so far conform to the statute as to make a purchase, which they could, at any time before receiving the article, be compelled to carry out. Ordinarily but little practical harm results from this among honorable business men. ¹⁸ An honorary obligation is as sure to be discharged by them as a legal one, but not so with that class which is to all intents and purposes outside the pale of this category.

CONDITIONAL SALES.

A seller may by express stipulation retain the property in goods delivered upon contract of sale till the price is fully paid, and may at any time take possession, if the purchaser fails to pay according to his contract.

RESCSSION ON CONTRACTS.

The same power and authority which creates a contract may, of course, annul it. This is called rescission. Both parties to a contract (no intervening rights having acquired) may rescind at any time; and where one party is guilty of a *wilful breach* of a contract, the other party, in addition to his right to recover damages (perhaps rather instead of that right), may, if he can restore the delinquent to his original position, rescind the contract.

SELLERS' RIGHT TO STOP GOODS IN TRANSIT.

This is a right which a seller has of reserving possession of his goods sold on credit while they are in the hands of a carrier, or middleman, in transit to the purchaser and before they come into actual possession of the purchaser. The right is as old in its existence and recognition, as a part of the law merchant, as the 26th of March, 1760. It is exceedingly important, and its rules should be so in the mind of every seller of merchandise, that he may avail himself of it at a moment's notice by telegraph, if necessary.

1. The right exists whenever the purchaser becomes insolvent after the sale, and before the goods come into his *actual* possession.

2. It may be exercised by the seller, either personally, or by his agent, clerk, or some friend acting for him, providing the act of the friend be ratified before the goods reach the purchaser.

3. The right continues as long as the goods are in transit, that is, at any time before they come into actual possession and control of the purchaser.

4. The right can be exercised, not necessarily, by actual seizure of the goods, but by giving notice to the carrier in whose hands they are, on receipt of which notice it becomes the duty of the carrier to retain the goods for the consignor.

THE VIEW OF EMINENT COUNSEL ON THE VALIDITY OF VERBAL CONTRACTS.

A verbal contract for the future delivery of goods, in which *labor* is incident to the manufacture or delivery of the goods, is held by some of our prominent lawyers to be outside of the "Statute of Frauds," and, therefore, valid and binding, without part payment being made, or part delivery of the goods executed. Although we are not aware that this has been so decided by our courts (though it may have been), yet a number of settlements have

been amicably made in times past, no doubt based upon this construction of the law.

CANCELING ORDERS—A TEST CASE.

The habit of canceling orders for goods for present or future delivery has been a growing evil for several years past, and, it is thought, will greatly increase in the coming season from present appearances. We learn that the matter is to be tested in the courts to establish a precedent as to whether the buyer has a legal right to cancel an order. We are pleased to see our manufacturers and commission merchants take a decided stand in the matter. The case has been placed in the hands of Messrs. Wood & Co., 335 Broadway, who are well known to the dry goods trade. The plaintiffs are Messrs. W. S. Taylor & Bloodgood, Jr., of Thomas street; the defendants are Messrs. John Kafka & Co., of Walker street, New York. It appears that Messrs. Kafka & Co. ordered from plaintiffs forty cases of felts, amounting to some \$16,000, to be delivered in June, July and August. Two cases were delivered on May 8, 1880, as sample cases. Subsequently, upon Messrs. T. & B. requesting a written contract, Messrs. K. & Co. notified them that they now cancel the order, and returned the two cases delivered. Messrs. T. & B. are determined not to be treated in such a manner, and have instructed Messrs. Wood & Co. to commence suit against them for damages, and are legally advised that plaintiffs have a clear case. The result will be looked forward to with considerable interest by the trade, as it will be regarded as a test case.—*U. S. Economist.*

The Wool Situation.

During the month of June, the farmers of the Northwest will be much more interested in what pertains to the wool clip than anything else, as that alone comes into market. The Western clip will be shorn during the coming two weeks, and be ready for market, and growers are desirous of knowing the facts as to supply, demand, and all other circumstances that may influence the price of the new clip. They are as follows:

THE EASTERN MARKETS.

The markets of ultimate supply, nearest the manufacturing centres, are Philadelphia, New York and Boston. These markets are quite bare of old domestic wools of good quality and staple, except a few lots in the hands of speculators, who have virtually withdrawn their wool from market, by insisting on prices far above those current for other wools equally as good.

These markets are overstocked with foreign wools, now arriving, and Texan and California spring clips, none of which sell within three cents per pound of what they cost at the point of purchase six weeks ago.

The Eastern markets are therefore quite demoralized, and as the demand for the new clip must come from them, there can be no certain prognostications as to prices till the surplus stocks are sold to manufacturers and go into the channels of consumption.

It is not probable that any advance can occur in prices. It is almost certain that further declines will occur, owing to the fact that the trade in manufactured goods is sluggish, and that many of the future sales of goods at higher prices than are now current, on which the courage and strength of the woolen manufacturers were based, are being repudiated.

It is further stated that the general stock, after the deliveries on previous sales were made, are ample. So it seems that the woolen boom has broken off short in the East, and the situation may be summed up as follows:

Large stocks of woolen fabrics unsold, and a small and indifferent demand; an ample stock of wool in the mills and in dealers' hands, and an increasing desire to sell both, with no satisfactory response from buyers.

THE WESTERN MARKETS.

In the wool-producing districts of the country the clip is being shorn early. New wool is already appearing from California and Texas, which finds a slow sale at 3 cents per pound less than was paid the growers.

In Ohio, the clip will be larger than last year, and is now coming into market quite reluctantly at 40@45 cents for X and XX lots in good condition. The purchases are, however, mostly confined to local buyers, and are made somewhat blindly.

The Michigan clip will be larger than last year, but has not yet moved sufficiently to establish quotations. Old buyers insist on last year's opening prices—30@35 cents.

In Wisconsin and Illinois, some of the early un-washed shearings have been sold at 28@30 cents, but at the close of the week 28 cents would be considered a good price for medium light un-washed, and 22@25 cents for finer grades.

The clip of Wisconsin will be larger than last year, and, owing to the favorable weather, will come to market in most excellent condition. The general feeling among growers is to hold for 40 cents for good washed medium, but no buyers offer over 35@37. Another week will see most of the clip shorn and ready for market, although the scarcity of buyers may postpone somewhat the sale till prices become settled. In our special review the situation in Wisconsin is more particularly stated.

"How many deaths?" asked the hospital physician while going his rounds. "Nine." "Why, I ordered medicine for ten?" "Yes, but one wouldn't take it."

High Top Boots.

You'd better not call me Captain Boots

I've grown too big for that;

And I think that I'll drop the cat.

Old hen, if you snap your spurs at me,

You will have to stand a fight with theee—

A couple of boots and a man, do you see?

Ho! pretty good boots! Ho! high-top boots!

Ho! gentleman's boots for me!

Stand out of the way, I'm going to walk,

I'll tread on somebody soon.

Oh! how they squeak! Yes, how they talk!

I think it as good as a tune.

They tie themselves without any strings,

They match like a pair of angel's wings,

New leather! I hope you smell the things,

Ho! pretty good boots! Ho! high-top boots!

Ho! gentleman's boots for me.

I wish it was Sunday to go to church,

I wish it was Monday to play,

I wish it was Tuesday to ride my horse,

I wish it was every day.

I will wear them to bed, for Uncle Jim

Might fill them with water up to the brim,

As once I filled his boots for him.

Ho! pretty good boots! Ho! high-top boots!

Ho! gentleman's boots for me.

A BIG IRISHMAN.

The Emerald Isle has long been famous for producing giants. The most celebrated of these was the well-known O'Brien, whom we first hear of as a great raw youth crying in a public house because unable to pay the bill, having been left penniless through a quarrel with his exhibitor. A gentleman, taking compassion on him, paid his debt, and advised the young giant to set up on his own account. Acting on this recommendation, O'Brien started a public house in Bristol, long known by the sign of the "Giant's Castle." A memorial tablet in Trenchard Street Roman Catholic Chapel records his stature as having been eight feet three inches. He was very anxious that his remains should not fall into the hands of anatomists, and gave directions for securing his grave against desecration from body-snatchers. It has, however, been disputed whether the giant's bones still rest in his grave, or form one of the curiosities of the Hunterian Museum, though we believe they still lie undisturbed in a deep sunk grave. Poor O'Brien had to take his constitutional under cover of darkness, to avoid being mobbed by the curious, and, like most big fellows, proved himself a simple and inoffensive man; though once he inadvertently terrified a watchman almost to death by lighting his pipe at a street lamp, the sudden appearance of which strange apparition threw the watchman into a fit. His colossal proportions once saved the giant from being robbed, the highwayman who stopped his carriage riding away in terror at the sight of O'Brien's huge face thrust through the window to see what was the matter.—*Chambers Journal.*

A TEMPERANCE WOMAN.

"King Humbert," old Mr. Throstlewaite read from his paper, "is said to be very fond of Garibaldi." "And it's none to his credit," sputtered Mrs. Throstlewaite, "that he is. The King of Italy might have better taste than to be a-sitting on his royal throne guzzling and swilling spirituous liquors with funny names while his people demand all his attention. If he's fond of it now, where will his appetite carry him by the time he's 45? His fancy drinks won't be strong enough for him then, and he'll be a common raw-whisky drunkard." And she went on to tell of a young man she knew down at New Bedford, who was passionately fond of Tommanjerry, and drank himself into the grave in twenty-three years.—*Burdette.*

"Good Boy."—A little fellow was out riding with his father the other day, when, noting the name of a street, he asked if it was named after Mr. B—, a well-known politician.

"By no means," said the parent; "it was not named after him, but after his father, who was very popular, and very much esteemed."

The boy said nothing, so his father, who thought he saw a chance to preach a little sermon, continued:

"It's very apt to be so. A boy has a father whom everybody loves and respects for his good qualities and abilities, but in many cases the boy doesn't amount to anything."

Said the boy, after a pause:

"Your

NEWS.

EVERYBODY READS THIS.

ITEMS GATHERED FROM CORRESPONDENTS, TELEGRAMS AND EXCHANGES.

Montana Territory claims to be a rich wheat producing country.

B. Walton, Fairbury, Ill., has ordered rolls for bran from E. P. Allis & Co.

Very large orders have been sent from England, of late, to China, for rice.

Williams & Co., of Houston, Minn., will change their mill into a roller mill.

The George's Mill of St. Louis are putting in the Gray's patent noiseless roller mills.

St. Louis expects to send great quantities of grain down the Mississippi in barges this year.

Otto Troost of Winona, Minn., is making great improvements to be ready for the next crop.

The Empire Mills of Milwaukee are to be changed to the roller mill system during the summer.

Harness Draper are over-hauling their mill at Hutsonville, Ill., and adding 3 run of buhrs.

Minneapolis is a rapidly growing city and bids fair to have a population of 100,000 before 1885.

Geo. I. Smith's mill at Fremont, Wis., burned May 4. Loss \$8,000. Insurance \$2,500. He will rebuild.

The Winona Milling Co.'s new complete roller mill at Winona, Minn., has started up and is doing good work.

Ph. H. Postal of Masquethah, Ill., has ordered rolls for bran and tailings from the Reliance Works Milwaukee.

Dow, Gilman & Hancock, of Davenport, Iowa, have ordered bran rolls from E. P. Allis & Co., Milwaukee, Wis.

H. H. Helman & Co., proprietors of the steam flouring mills at Newport, Ky., are remodeling for new process.

W. E. Fisher, Red Bud, Ill., is putting in corrugated rolls for reducing wheat, bought of Ewd. P. Allis & Co., Milwaukee, Wis.

Evans & Sohl, Noblesville, Ind., have put in corrugated and porcelain rolls, bought from Ewd. P. Allis & Co., Milwaukee, Wis.

Ewd. P. Allis & Co., Milwaukee, have the contract for changing over the mill of W. Seyk & Co., Kewauhew, Wis., to the gradual reduction roller system.

A barrel of flour from 1880 wheat was received in New York from J. L. Cook's mill at Macon, Georgia, about the first of May. The wheat was cut April 10.

Ewd. P. Allis & Co. of Milwaukee have the contract of changing over the mill of A. Eisenmayer & Co., Trenton, Ill., to the gradual reduction roller system.

Otto Troost of Winona, Minn., is putting in the full gradual reduction system. All the rolls and machinery are ordered from Ewd. P. Allis & Co., Milwaukee, Wis.

Three grain elevators will be built in Chicago during 1880, and perhaps more. Chicago grain dealers claim that they need at least 50,000,000 bushels of elevator capacity.

Work on J. B. A. Kern's new roller mill in Milwaukee, is progressing rapidly. It is said that he will probably have specimens of all the well-known roller mills manufactured.

Messrs. Voelker & Jones, proprietors of the Riverside Mills at Fredonia, Wis., have recently been making some considerable improvements in their mill. George Heimdel has charge of the work.

S. H. Seamans & Co., Milwaukee, are putting in the full gradual reduction roller system. The rolls are or will be the Gray's patent, and the whole work is bought of Ewd. P. Allis & Co., Milwaukee, Wis.

Ewd. P. Allis & Co. report orders for thirteen of the Reynolds-Corliss engines, among them a pair of 1000 horse-power for the Joliet Steel Works of Joliet, Ill. Messrs. Allis & Co. are running the works day and night with a force of about 600 men, and just enclosing a new foundry 60x300 ft. Their old foundry room will be converted into an erecting room for engines.

The Itinerants.

STORY OF THE VOYAGE OF THE BOTHNIA, BY A JOLLY VOYAGEUR.

The good steamer Bothnia, bearing an important delegation of European millers, millwrights, engineers, etc., to the Cincinnati Exposition, completed her voyage from Liverpool to New York on the 25th ult., arriving at her destination after having made one of the most pleasurable and favored trips on record. At no period of the journey was there any approach to bad weather, and the dreaded Atlantic rollers came to be regarded as a mythical bogey. The return voyage of the party may, however, inspire more veneration of the vasty deep, and the desperate rolling parties may yet survive in memory as examples of disturbed degrees of watery longitude.

The 24th of May, the anniversary of the Queen of England's birth, was celebrated in the festive manner usual on board the popular Cunard lines. At dinner, Mr. Greenough, a well-known Boston gentleman, in rising to propose the health of Queen Victoria, alluded in felicitous terms to the toast, which privilege had fallen to his humble lot. He paid a high compliment to the English nation, and concluded by stating that in his opinion the good feeling that had hitherto existed between the Union and Britania always formed a source of confidence, which the Americans, as a nation, placed in the distinguished land, whose prosperity and long life it was his pleasant duty to prompt on that occasion.

Mr. de Cordova, an English merchant, residing in York, responded on behalf of the Queen and British nation.

In the evening a concert was given under the auspices of the passengers. At this a collection was made on behalf of the Seamen's Orphanage, Liverpool. This, with donations and contributions gathered at the Sunday morning church, on behalf of the same charity, amounted to closely upon \$40.

Before leaving the ship, the party passed a hearty and unanimous vote of thanks to Messrs. Troop and Thayer for their painstaking courtesy on behalf of the voyagers in the premier portion of the pilgrimage.

Notwithstanding the intensity of the heat during the sojourn of the delegates in New York, they managed just to crawl around to see the sights; in fact, some members (in the company of Sergeant Cahill and Detective Gilroy, of the New York police, who were detailed for the duty, through the kindness of Captain Keely, of the Fourteenth Precinct) saw more of the city in a few hours than many a resident of years' standing has done.

Niagara was voted stupendous by all, though one of the practical members of the crowd, seeking the ideal in the real, thought it was a pity the United States would not build all her mills on the banks.

The usual monotony of an ocean journey was in a great measure obviated in the one now under consideration. Everything that could be thought of whereby the routine might be varied and the, in a measure, inevitable sameness averted, was done by the officers. Daily excursions were permitted to those realms of mystery wherein the magnificent machinery of the ship is located, and to other places of interest, and all recreational pursuits practicable on shipboard, were lavishly provided. Life on board this floating palace can be compared to nothing more properly than to a brief and enjoyable sojourn in a premier establishment at a regal watering place. Comfort was assured to all, and every epicurean palate was successfully studied. Our last words ere seeking repose on the night of the 22d ult., when our vessel was entering the Arctic current, after we had spent the greater portion of the day on a freezing coigna of vantage in the bows of the ship, addressed to the night watchman, were as follows: "If any ice is sighted, or felt, waken us at once." In the last case my interlocutor replied thus: "There will be no need of rousin' yez." The grating of ice on the starboard bow was the warning signal that recalled us from the land of nod on that memorable dawn, and with regrets at the premature banishment of our sweet slumber, we leaped from our couch, and hastened on deck. This was on the morning of the 22d at 4:30. Having reached the air, our attention was directed to a dim horizon, where our heated imagination led us to discern in fancy, unheard of wonders. "Oh," we exclaimed rapturously, as mountains, the summits of which fairly lost themselves in the starry ether were revealed to our uninitiated view with colossal grandeur. But our rhapsody was somewhat checked by the reply of our instructor in iceberg lore: "Ye's aint a-lookin' on the ice, tha' it iz." This was accompanied

by a direction of the finger. We now brought our glasses to bear, and our optics becoming accustomed to the haze, that overspread us west and east, we discovered our iceberg sailing far away to the lee. Our imagined iceberg was nothing but a mist.

The pure and simple example was an insignificant article, for all the world like an inverted bathing pan, newly whitewashed for the season. Distance reduced it in appearance, though probably it was half a dozen times the size of the "Bothnia." We made the acquaintance of these interesting but extremely dangerous subjects in the neighborhood of west, extending to lat. 42 deg. 5 min. N., and long. 52 deg. 38 min. W., 42 deg. 20 min. N., and long. E. 50 deg. 20 min.

During the afternoon many amazing mirages were noticed, such as vessels sailing upside down, and many other eccentric appearances. A school of whales and porpoises, and occasionally a solitary shark as well as kindred small deer, served to keep the excitement alive to the close of the voyage, which ended as blithely as it commenced.

Waifs.

THE flies have commenced buzzing.

BOUND to look well—A braided coat.

THE road to matrimony is a bridal path.

TRAMPS say, "There is arrest for the weary."

A HOUSEHOLD with a baby is founded on a rock.

WOMEN resemble flowers—they shut up when they sleep.

A GENTLEMAN named his dog Penny, because it was one sent to him.

LIES go by telegraph; the truth comes in by mail three hours late.

THE Gait's Ajar—Miss Elizabeth Stuart Phelps has a badly sprained ankle.

THE good mother and the accessible slipper always makes a spanking team.

THE report that the baby elephant was born with a valise instead of a trunk is incorrect.

A BOSTON artist painted an orange peel on the sidewalk so naturally that six fat men slipped down on it.

"MAMMA," asked a little girl, "why is it they sing in church, 'We'll dine no more,' and then go right home and dine?"

THE last words which would have gone down to history as the dying utterance of the Czar would have been, "Well, I'm blowed."

"We old maids," remarked Miss Stebbins, "love cats because we have no husbands, and cats are almost as treacherous as men."

AN English traveler in the Holy Land, it is said, has discovered Jacob's well. There has been a rumor afloat that Jacob was dead.

THE last words which would have gone down to history as the dying utterance of the Czar would have been: "Well, I'm blowed!"

THE burglar-alarm is a great invention. It always warns the burglar in season for him to get out of the way before anybody can shoot.

AN editor in Iowa has become so hollow from depending on the printing business for bread that he proposes to sell himself for a stove-pipe.

"A MAN who'll maliciously set fire to a barn," said Mr. Slow, "and burn up twenty cows, ought to be kicked to death by a jackass, and I'd like to do it."

IT is awful hard to realize that a woman is an angel when one sees her pick up a clothes-prop fourteen feet long to drive a two-ounce chicken out of the yard.

"SILENCE is golden." Aunt—"Has any one been at the preserves?" (Dead silence). "Have you touched them, Jemmy?" Jemmy—"Pa never 'lows me to talk at dinner."

A WHILE ago a party of lynchers, down South, postponed the hanging five minutes, to allow the victim time to finish smoking a cigar. This proves that the use of tobacco prolongs life.

A WHILE ago a party of lynchers, down South, postponed the hanging five minutes, to allow the victim time to finish smoking a cigar. This proves that the use of tobacco prolongs life.

"WHO invented the banjo?" asks a correspondent. "We are without official evidence on this subject, except that the inventor is dead. Good people will never meet him in the next world."

A LITTLE girl in one of our public schools the other day had occasion to parse the word "angel." Coming to the gender she stopped, dismayed, and asked her teacher if "there are any men angels."

"I KNOW a victim to tobacco," said a lecturer, "who hasn't tasted food for thirty years." "How do you know he hasn't?" asked an auditor. "Because tobacco killed him in 1850," was the reply.

A BROCKTON man bet 25 cents that he could vault over a counter in a grocery store, and the mighty effort he made carried him clear over the counter and into a box of eggs five feet beyond. He got the quarter.

A BROCKTON man bet twenty-five cents that he could vault over a counter in a grocery store, and the mighty effort he made carried him clear over

the counter and into a box of eggs, five feet beyond. He got the quarter.

"ZEPHANIAH," said his wife, with a chilling severity, "I saw you coming out of a saloon this afternoon." "Well, my dear," replied the heartless man, "you wouldn't have your husband staying in a saloon all day, would you?"

"SIR," said an astonished landlady to a traveler who had sent his cup forward for the seventh time, "You must be very fond of coffee." "Yes, madame, I am," he replied, "or I should never have drunk so much water to get a little."

OVER-WORKED merchant asks: "How shall I contrive to get my mind off business?" Well, if you try to set a rat trap in a very short time you'll forget all about your business, and be wondering how in Hades the thing can bite so.

"WHAT? twenty-five cents a pound for sausages? Why, I can get them down at Schmidt's for twenty cents!" "Vell, den, vy didn't yer?" "Cause Schmidt was out of 'em." "Vell, uv I was out of 'em I sell for twenty cents too."

AN Irish gentleman in London, being told by an officer of a bank that he had overdrawn his account, replied that he was not in the habit of twitting them when he had money in their vaults, and he did not want to be twitted by them when he had none.

THE laugh of the school girl, "He! he! he!"—Salem Sunbeam. The laugh of Buffalo Bill on the war-path, "Ha'r, ha'r, ha'r!"—Boston Journal of Commerce. The laugh of the granger, "Ho, ho, ho!"—America. The laugh of the grocer, "Te, te, te!"

A LONDON servant girl is represented by Judy as saying: "Hard weather, indeed, sir. I wish the Lord would take the weather in His own hands again, instead of trusting it to them Yankee probability men. We might then get something fit to live in."

NOTHING is more pathetic than to see a gentleman rise in a street car and offer his seat to a lady who has been standing for a mile, overcome her protestations and finally receive her gratitude, and then, with a benignant and satisfied smile, hop right off at his own store.

IT was at the opera house. The performance was about to begin, when one of the two strangers looked all around and said: "Bill, where is the dress circle?" Bill glanced up toward the third gallery and replied, "I reckon it is up yonder. I see a fellow taking off his coat."

IT was a colored preacher who said to his flock: "We have a collection to make this morning, and, for de glory ob heaben, whichever of you stole Mr. Jones' turkeys, don't put anything on the plate." One who was there says, "Every blessed niggah in de church come down with de rocks."

"UNLESS you give me aid," said a beggar to a benevolent lady, "I am afraid I shall have to resort to something which I greatly dislike to do." The lady handed him a dollar and compassionately asked: "What is it, poor man, that I have saved you from?" "Work," was the mournful answer.

A GENTLEMAN in New Orleans was agreeably surprised to find a plump turkey served up for the dinner, and inquired of his servant how it was obtained. "Why, sir," replied Sambo, "dat turkey has been roosting on our fence for free nights. So dis morning I seized him for the rent of de fence."

A NEGRO, having purchased a hat was observed to take it from his head on the fall of a slight shower of rain, and to manifest considerable alarm to preserve it from the wet. On being remonstrated with for his supposed stupidity in thus having his head exposed, he wittily observed, "Hat belong to me, head belong to massa."

"WHEN I was once in danger from a tiger," said an old East Indian veteran, "I tried sitting down and staring at him, as I had no weapon." "How did it work?" asked a bystander. "Perfectly; the tiger didn't even offer to touch me." "Strange! very strange! How do you account for it?" "Well, sometimes I've thought that it was because I sat down on a high branch of a very tall tree."

WHEN Marshal Narvaez was on his deathbed his confessor asked him if he freely forgave all his enemies. "I have no enemies," replied the dying Marshal, proudly. "Everyone must have made enemies in the course of his life," suggested the priest, mildly. "Oh, of course," replied the Marshal, "I have had a great number of enemies in my time, but I have none now. I have had them all shot!"

A SOCIETY journal gave a prize the other day for a piece of poetry to be twenty lines in length without the letter S once occurring in it. The honorable Billy sat up all night with his head in a linseed meal poultice, pegging away like anything, and by daylight he actually pulled it off, and took the result round to Popsy for her opinion. "You might improve it still," she said, "How?" "By leaving out all the other letters too."

THE first car-load of new winter wheat was sold on the St. Louis Board of Trade Saturday, May 22d. It was sold by auction at \$1.62 per bushel, a price that would gladden the hearts of the wheat ring. It inspected "No. 2 red," and was voted a premium of \$125 on account of its early arrival. It came from Fort Worth, Texas. Later arrivals are contented at a valuation of \$1.06 per bushel, without any auctioneer, or any prize accompanying.

Horse-Shoeing.

As there has been many theories in shoeing horses for the benefit of the horse and its owner, which have not proved satisfactory in all cases, I will give you the result of my experience in horse-shoeing for the last 30 years:

First notice the way the horse stands. If his feet are stretched forward it denotes that the shoes bear too much at the heel. Remedy: Pare the foot considerably at the toe, but very little at the heel. Joint the foot, after it is pared, with the rasp, and see that you have an equal bearing all around the foot. Have the shoe concaved back to the last hole in the shoe; then level back to the heel calks. When the shoe is set, have the crust at the heel about midway of the width side of the shoe. commence nailing at the toe, one nail on each side alternately.

Second: If his toes incline toward each other, set the shoes pointing straight forward and trim the toe on the inside, which will prevent his hitting the other foot and tumbling. Shoes in all cases should be of good length. Work and team horses, in summer time, should be well calked half sharp.

Third: To prevent overreaching, longer shoes are necessary on the forward feet. The outside corner at the heel should be rounded out to prevent chafing the hind foot. Set the shoe on the hind foot back so that the foot may project over the shoe nearly half an inch at the toe. You will then be rid of that painful and disagreeable tune at every step, click, click, click.

For roadsters, in summer time, I prefer the slipper shoe, thick at the heel, with medium size toe calsk. To prevent interfering, pare the foot a little, the most on the outside. This will have a tendency to roll the ankles further apart. A side calsk on the outside heel will prevent the foot sliding under as it touches the ground. Set the shoe pointing straight forward with the foot projecting over the shoe as in other cases.

For Sale or Exchange.

Advertisements under this head \$2 per insertion, cash with order.

FOR SALE—A four run Water Power Mill. Good trade. Healthy climate. Address, mentioning **UNITED STATES MILLER**, **BLANCHARD & BRADLEY**, **je** Santa Paula, Ventura Co., California.

FOR SALE—A six run Flour and Pearl Barley Mill. Well established trade. Good water power. Owner is old and wants to retire from business. Easy terms. Address, mentioning **UNITED STATES MILLER**, **R. C. HATCH**, Fayetteville, Onondaga Co., N. Y. **je**

FOR SALE—Half interest in a three run Water Power Mill. Price, \$3,000. Address, mentioning **UNITED STATES MILLER**, **J. M. CASE**, **je** 296 E. Rich Street, Columbus, Ohio.

FOR SALE—A half interest in a new two run Water Power Grist Mill. This is a rare bargain. When you write state what paper you saw this advertisement in. Address **A. J. GLOVER & SON**, **je** Galien, Berrien Co., Mich.

FOR SALE—Three run Steam Power Mill. Only mill within a radius of ten miles. Mention **UNITED STATES MILLER** when you write. Address **SMITH, KENOYER & SON**, Edina, Knox Co., Mo. **je**

FOR SALE—A first class mill-site with good dam and good foundation walls of burned mill. Premises include 44 acres land, dwellings, etc. Write for full particulars and mention **UNITED STATES MILLER**. Address **M. B. BUTLER**, Belle Brooke, Green Co., Ohio. **je**

FOR SALE—A four run Steam Power Mill. Established business. Will give long time or trade for farm property. Address, stating in what paper you saw this advertisement, **L. F. HOLBROOK**, **je** Newell, Buena Vista Co., Mich.

FOR RENT—A three run Custom Mill. Good location. Address, mentioning **UNITED STATES MILLER**, **WILLIAM R. WILKINSON**, **je** Bois Brule, Perry Co., Mo.

FOR SALE—A two-run Water Mill, new process machinery, etc., all complete for Custom Mill or Merchant Mill. Plenty of water the year round to run night and day. House, stables, etc. Will be sold cheap on easy time. Address **E. W. THOMAS**, **je** Lyons, Iowa.

Situations Wanted, etc.

Millers, Engineers, Mechanics, etc., wanting situations, or mill-owners and manufacturers wanting employees, can have their cards inserted under this head for 50 cents per insertion, cash with order.

WANTED—Situation as miller by a single man in a merchant or custom mill. Can furnish references. Satisfaction guaranteed. **J. A. ADAMS**, **je** 157 Scribner St., Grand Rapids, Mich.

SITUATION WANTED—By a first class thoroughly practical miller. Have a family. None but those willing to pay a good fair salary need apply. Address **C. C. ARNOLD**, Rubicon, Wis.

WANTED—By a respectable single man, age 32, a situation as miller, 15 years' experience in England and the United States. Is a good stoneman and accountant. Address **B. N. A.**, McGrawville, Cortland Co., N. Y.

SITUATION WANTED—In either merchant or custom mill. I thoroughly understand milling in all branches of the business, and will guarantee satisfaction both in yield and quality when parties adopt my system of bolting. From 43 to 46 pounds of No. 1 flour can be made from 60 pounds of clean wheat. First-class references given. Am not particular as to time needed. Can come at any time. Correspondence solicited. Parties answering please give description of mill, state terms, etc. Address **MILLER**, **apr** Rauch's Gap, Clinton Co., Pa.

IMPORTANT NOTICE TO MILLERS—The Richmond Mill Works and Richmond Mill Furnishing Works are wholly removed to Indianapolis, Ind., with all the former partners, tools, and machinery, and those of the firm who formerly built up and established the reputation of this house; therefore, to save delay or miscarriage, all letters intended for this concern should be addressed with care to **Nordyke & Marmon Co.**, Indianapolis, Ind.

German and Austrian FLOUR MILL DIRECTORY.

Compiled from official sources and giving in every instance the number of runs of stone and kind of power used, just published at Leipzig, Germany. This work is of great value to all who desire to build up trade with Germany or Austria. Price, \$9 per copy. Sent by mail on receipt of price. Address

UNITED STATES MILLER,
MILWAUKEE, WIS.

DESTRUCTIVE TO SCALE! BENEFICIAL TO IRON!

W. F. BRUMMER.

Manufacturer of the Celebrated Lavo

Pat. Boiler Compound.

For Cleaning Steam Boilers,

Office, 49 Oneida St., MILWAUKEE, WIS.

It dissolves and removes scales, leaving the boiler perfectly free from incrustation without injury to the iron.

It prevents the formation of any new scale, and will not foam.

It saves fuel and lessens the danger of explosion. Any quantity of testimonials can be furnished on application. It is used in the boilers of V. Blatz's brewery, and preferred to any ever before used.

Price 15 Cents per pound. Discount on large orders.

Millers troubled with BUGS or WORMS in their bolt chests or elsewhere in the mills, should send for a package of my

CAUCASIAN INSECT POWDER.

It is sure death to insects, but absolutely non-poisonous to persons or domestic animals. Price, 25 or 50 cents per package, according to size. Pound packages, \$1.50.

SCRAP IRON,
RAGS,
AND
METALS.

We are in the market for SCRAP IRON, RAGS and METALS, for which we are ready to pay

Highest CASH Prices!

FRANZEN & CO.

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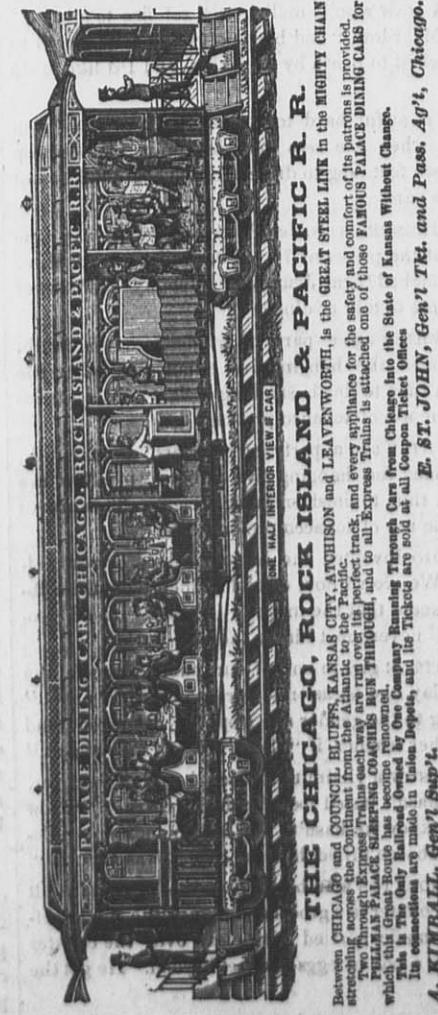
Nos. 1505 and 1507 State St. 60 Oneida St., Opera H.

Milwaukee, Wisconsin.

Correspondence solicited. Please state where you saw this advertisement.

Nov 20

If you are going to Kansas, Nebraska, Colorado, New Mexico, Arizona, Wyoming, Utah, Montana, Dakota, Nevada, Oregon, California, China or Japan, ask for Tickets via the "GREAT ROCK ISLAND ROUTE."

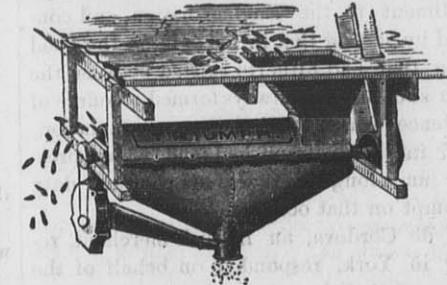
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United States Miller!

THE LEADING MILLING JOURNAL OF AMERICA.

Subscription Price One Dollar per year, post paid. Address **UNITED STATES MILLER**, 62 Grand Opera House, Milwaukee, Wis.

TO THE MILLING PUBLIC!

C. F. Miller, of Mansfield, Ohio, is eminently successful in planning, arranging and refurbishing flour mills to operate on the improved systems, and is prepared to furnish the best brands of Bolting Cloths, and best French Burr Mill Stones at importers' lowest prices, also the latest improved mill machines of all descriptions, including the Downton and Porcelain Rolls. And having given special attention for a number of years to the principles of bolting, and earnestly seeking to obtain the most perfect separation of the flour from the bran, his success is evidenced by the large number of mills, now running, which have been reconstructed so as to fully conform to his system, and all of which are turning out a very superior quality of flour. And we feel warranted in saying to all who contemplate building a new, or reconstructing old mills, and who do not wish to incur the risk of failure to obtain the best results, that it will be your interest to consult Mr. Miller before closing contract for your mill improvements.

TRIUMPH
POWER CORN SHELLER!

Shells and Cleans 2,000 Bushels Ears per day.

The Cheapest, Best and most Simple Power Corn Sheller in use. Send for Circular and Price List.

HULBERT & PAIGE,
Painesville, Ohio.

POOLE & HUNT, BALTIMORE

MANUFACTURERS OF
THE POOLE & HUNT LEFFEL TURBINE

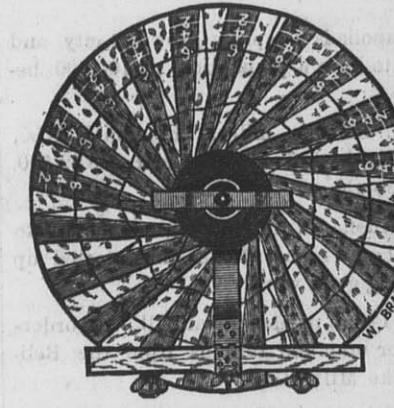
WATER WHEELS,
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MILL GEARING,
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STEAM ENGINES AND BOILERS,
MIXERS FOR FERTILIZERS AND CHEMICALS

LEHMANN'S

Improved Method of

Truing the Faces
— or —
MILL-STONES.

[Patented Jan. 7, 1879.]



LEHMANN'S

Improved Adjustable

Mill-Stone Bosom Staff.

[Patented Jan 27, 1880.]

Hundreds of testimonials from the best millers in the United States. For circulars and further information address

WM. LEHMANN,

722 Fourth St., Milwaukee, Wis.

We select the following testimonial, which is the latest for publication this month:

LACROSSE, Wis., April 2, 1880.—Mr. Wm. Lehmann, Milwaukee, Wis.—Dear Sir: We enclose check for the Staff, and in reply to your inquiry of the 30th ult., would say that we think it is all that you claim for it, and that is saying considerable. We very rarely give recommendations for new patent machinery, but we do not hesitate to make an exception in this case, even on a short trial of it, as it seems to be one of the few plain, practical devices in milling, which will stand the test of time. And then our miller, Mr. Zimmerman, has used it for some time at Minneapolis, and speaks well of it. Very truly yours,

A. A. FREEMAN & CO.

MORRISVILLE, Bucks Co., Pa.
MESSRS. TETER & ALLEN, Philada, Pa.—We give your Black Diamond Hand Tools fair trial. They are far superior to the Corundum Tool, cuts much faster and leaves a smoother surface, and still preserves the natural grit of the stone. Respectfully, HOWELL & SON.

Sold by MILL FURNISHERS throughout the United States and Canadas.

TETER & ALLEN, Proprietors,
DEALERS IN FLOUR MILL SUPPLIES,
404 Commerce St., Phila., Pa., U.S.A.

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C. C. PHILLIPS,

MANUFACTURER OF

VERTICAL and HORIZONTAL

French Burr Mills.

GREATLY IMPROVED.

Adapted to all kinds of Grinding.

Send for circular before purchasing elsewhere.

C. C. PHILLIPS, 4048 Girard Ave., Philadelphia, Pa.



HARRIS-CORLISS ENGINE,

BUILT BY

WM. A. HARRIS, Providence, R. I.

Built under their original patents until their expiration. Improvements since added, "STOP MOTION ON REGULATOR," prevents engine from running away; "SELF-PACKING VALVE STEMS" (two patents), dispenses with four stuffing boxes; "RECESSED VALVE SEATS" prevent the wearing of shoulders on seats, and remedying a troublesome defect in other Corliss Engines, "BABBITT & HARRIS' PISTON PACKING" (two patents). "DRIP COLLECTING DEVICES" (one patent). Also in "General Construction" and "Superior Workmanship."

The BEST and MOST WORKMANLIKE form of the Corliss Engine now in the market, substantially built, of the best materials, and in both Condensing and Non-Condensing forms.

The Condensing Engine will save from 25 to 33 per cent. of fuel, or add a like amount to the power and consume no more fuel. Small parts are made in quantities and inter-changeable, and kept in stock, for the convenience of repairs and to be placed on new work ordered at short notice.

NO OTHER engine builder has authority to state that he can furnish this engine. The ONLY WORKS where this engine can be obtained are at PROVIDENCE, R. I., no outside parties being licensed.

WM. A. HARRIS, Prop'r.